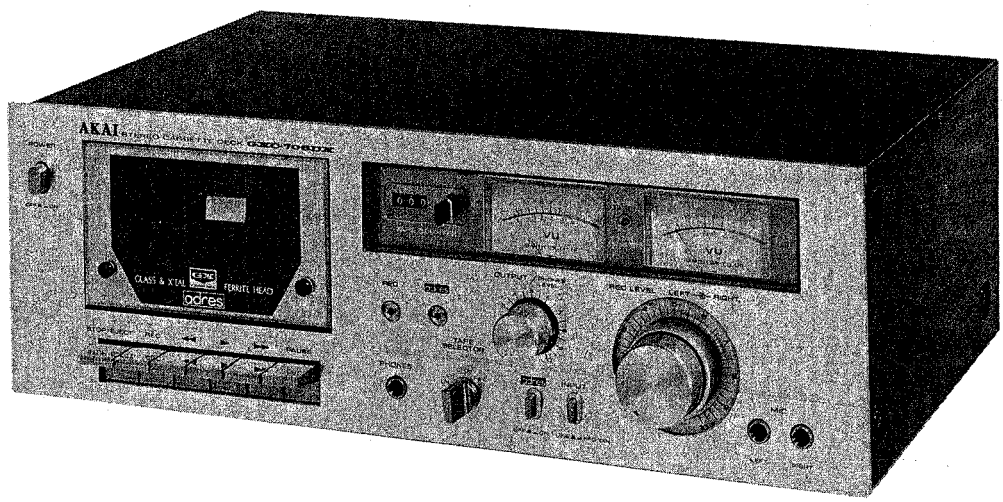
SERVICE MANUAL

PARTS LIST

GXC-706DX

MODEL GXC-706DX

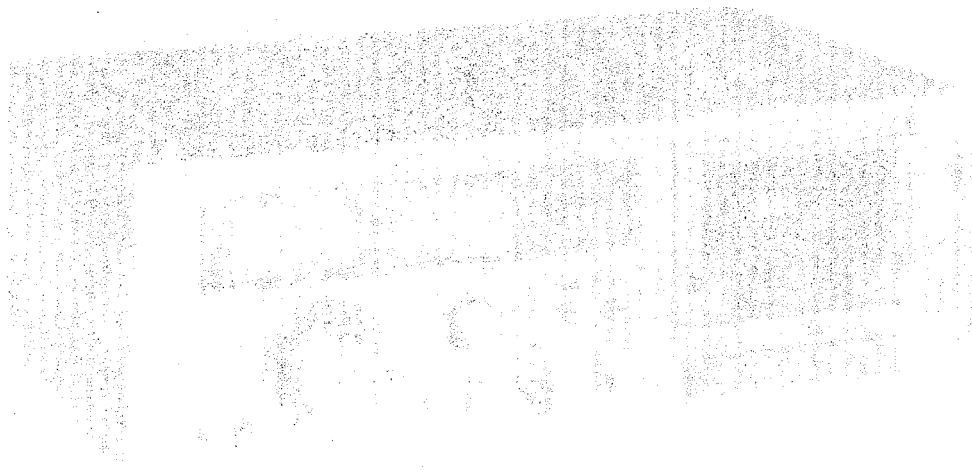
AKAI



STEREO CASSETTE DECK

MODEL GXC-706DX

SECTION 1 SERVICE MANUAL 3
SECTION 2 PARTS LIST 25
SECTION 3 SCHEMATIC DIAGRAM 40



SECTION 1

SERVICE MANUAL

TABLE OF CONTENTS

I. **TECHNICAL DATA** 4
II. **DISMANTLING OF UNIT** 4
III. **CONTROLS** 5
IV. **PRINCIPAL PARTS LOCATION** 6
V. **OPERATING PRINCIPLES OF ADRES** 7
1. GENERAL 7
2. CIRCUIT CONSTRUCTION 7
3. REQUIREMENTS FOR OTHER CIRCUITS ASSOCIATED WITH ADRES 10
VI. **MECHANICAL ADJUSTMENT** 11
1. FLYWHEEL LOOSE PLAY ADJUSTMENT 11
2. PINCH ROLLER PRESSURE MEASUREMENT 11
3. TAKE-UP TORQUE IN VARIOUS MODES 11
4. MUTE SWITCH ADJUSTMENT 11
5. MOTOR SWITCH ADJUSTMENT 11
6. TAPE SPEED ADJUSTMENT 11
VII. **HEAD ADJUSTMENT** 12
1. TAPE GUIDE HEIGHT ADJUSTMENT 12
2. RECORDING/PLAYBACK HEAD HEIGHT ADJUSTMENT 12
3. RECORDING/PLAYBACK HEAD AZIMUTH ALIGNMENT ADJUSTMENT 12
VIII. **AMPLIFIER ADJUSTMENT** 13
1. AMPLIFIER ADJUSTMENT 15
2. ADRES ADJUSTMENT 16
IX. **DC RESISTANCE OF VARIOUS COILS** 17
X. **CLASSIFICATION OF VARIOUS P.C BOARDS** 17
1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS 17
2. COMPOSITION OF VARIOUS P.C BOARDS 18

For basic adjustments, measuring methods, and operating principles, refer to GENERAL OPERATING PRINCIPLES AND ADJUSTMENTS.

I. TECHNICAL DATA

TRACK SYSTEM	4 Track 2 Channel Stereo System
TAPE	Philips Type Cassette
TAPE SPEED	4.76 cm/s
WOW & FLUTTER	*Less than 0.05% WRMS, 0.16% (DIN 45500)*
FREQUENCY RESPONSE	35 to 14,000 Hz ±3 dB using LH tape 35 to 15,000 Hz ±3 dB using CrO_2 (SA) tape
DISTORTION	Less than 0.7% using LN & LH tape (ADRES ON) Less than 0.9% using CrO_2 (SA) & FeCr tape (ADRES ON)
SIGNAL TO NOISE RATIO	Better than 74 dB using LN & LH tape (ADRES ON) Better than 76 dB using CrO_2 (SA) & FeCr tape (ADRES ON) (measured via tape with peak recording level)
DYNAMIC RANGE (1,000 Hz)	100 dB (ADRES ON) 77 dB (ADRES OFF)
ERASE RATIO	Better than 70 dB
BIAS FREQUENCY	85 kHz
HEADS	(2): One GX recording/playback head, one erase head
MOTOR	(1): Electronically speed controlled D.C motor
F.F & RWD. TIME	120 sec. using a C-60 cassette tape
OUTPUT JACKS	Line (2): 410 mV (0 VU) Required load impedance: more than 20 kohms Phone (1): 100 mV/8 ohms
INPUT JACKS	Microphone (2): 0.25 mV (Input impedance 5 kohms) Required microphone impedance: 600 ohms Line (2): 70 mV (Input impedance 100 kohms)
DIN JACK	Input: 2.0 mV (Input impedance 5 kohms) Output: 410 mV
DIMENSIONS	440 (W) x 150 (H) x 290 (D) mm (17.3 x 5.9 x 11.4")
WEIGHT	6.5 kg (14.4 lbs)
POWER REQUIREMENTS	120 V/60 Hz for CANADA 110-120/220-240V (Switchable), 50/60 Hz for the other countries

* For improvement purposes, specifications and design are subject to change without notice.

II. DISMANTLING OF UNIT

Please refer to the GXC-706D Service manual.

III. CONTROLS

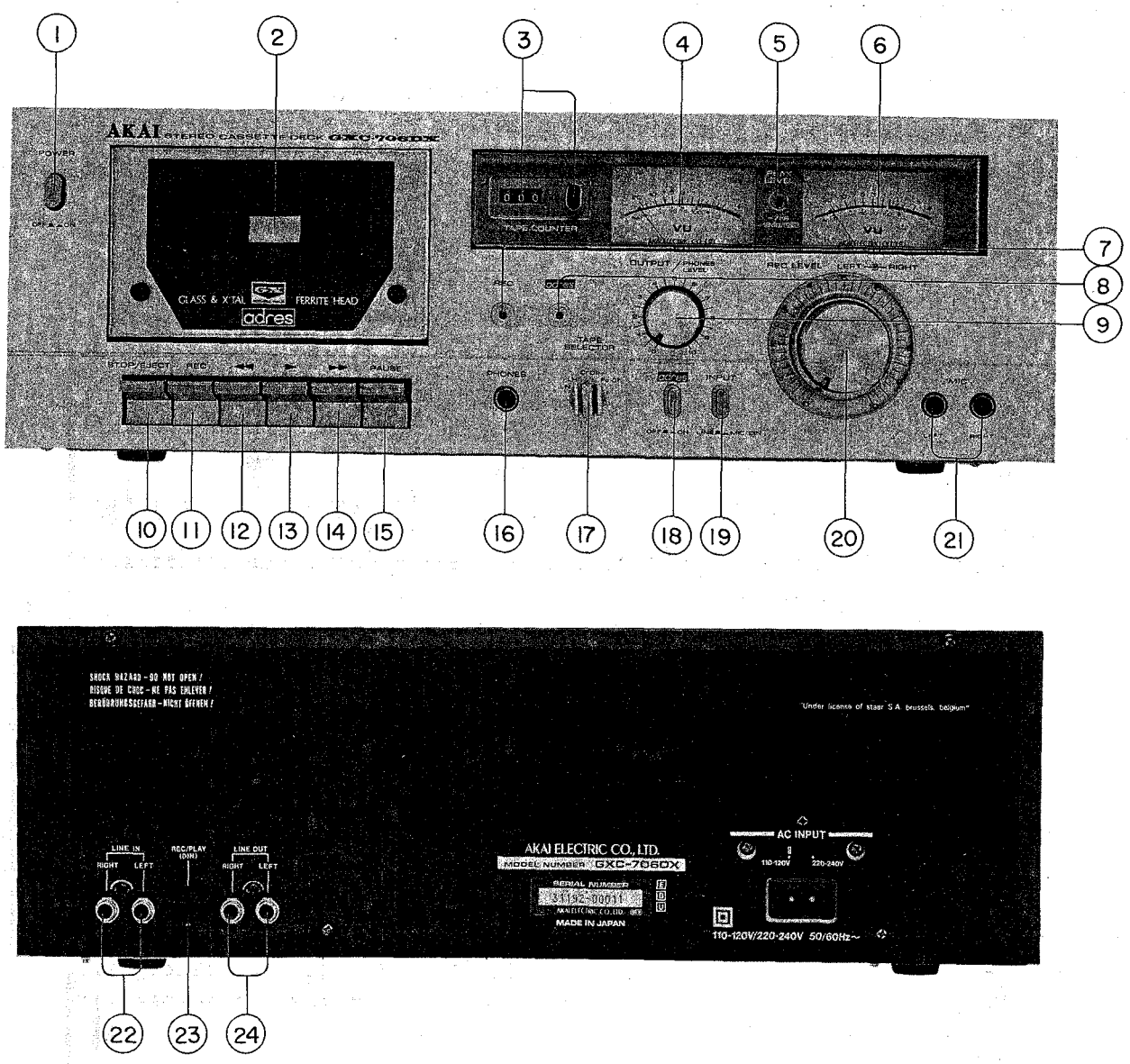


Fig. 1 Controls

1. POWER SWITCH
2. CASSETTE RECEPTACLE
3. INDEX COUNTER AND RESET BUTTON
4. LEFT VU METER
5. PEAK LEVEL INDICATOR
6. RIGHT VU METER
7. RECORDING INDICATOR LAMP
8. ADRES INDICATOR LAMP
9. OUTPUT LEVEL CONTROL
10. STOP/EJECT KEY
11. RECORDING (REC) KEY
12. REWIND (◀◀) KEY
13. PLAY (◀) KEY
14. FAST FORWARD (▶▶) KEY
15. PAUSE KEY
16. HEADPHONE JACK
17. TAPE SELECTOR SWITCHES
18. ADRES SWITCH
19. INPUT SELECTOR SWITCH
20. LEFT –⊖– RIGHT RECORDING LEVEL CONTROLS
21. MICROPHONE JACKS
22. LINE INPUT JACKS
23. DIN JACK
24. LINE OUTPUT JACKS

IV. PRINCIPAL PARTS LOCATION

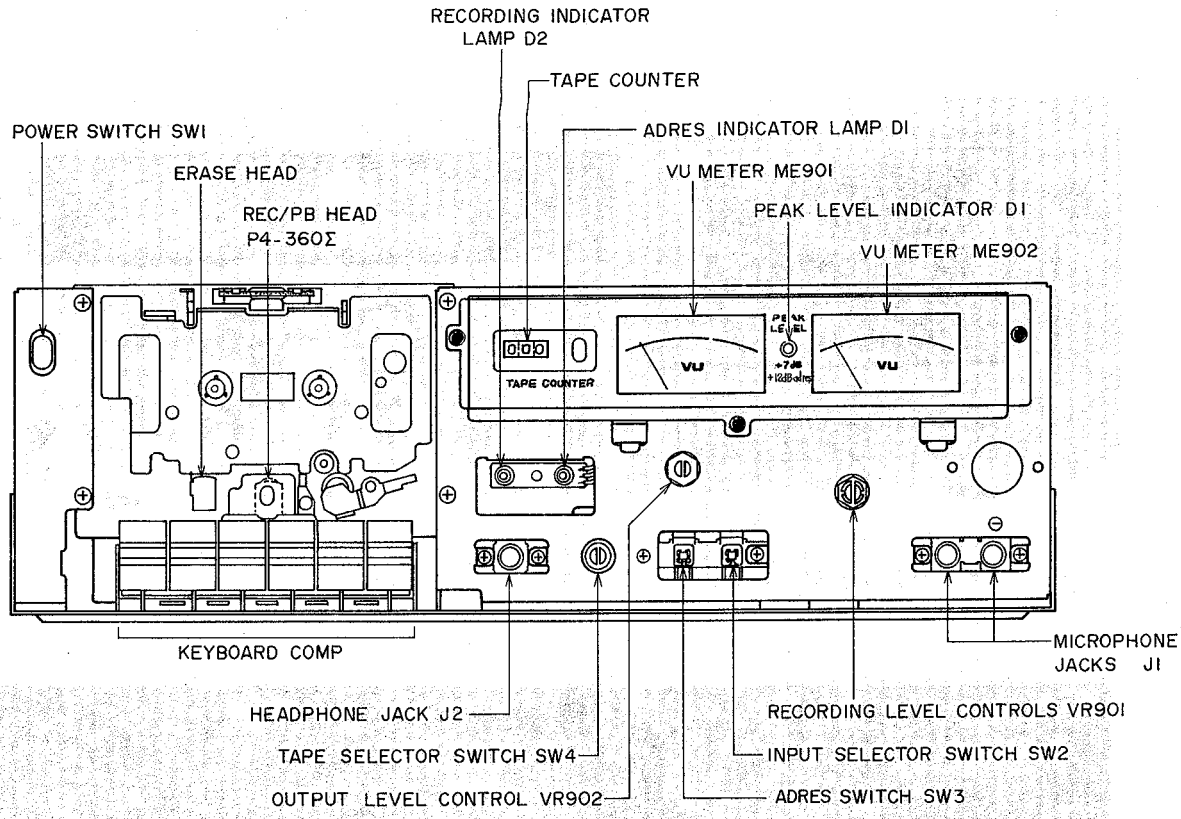


Fig. 2 Front View

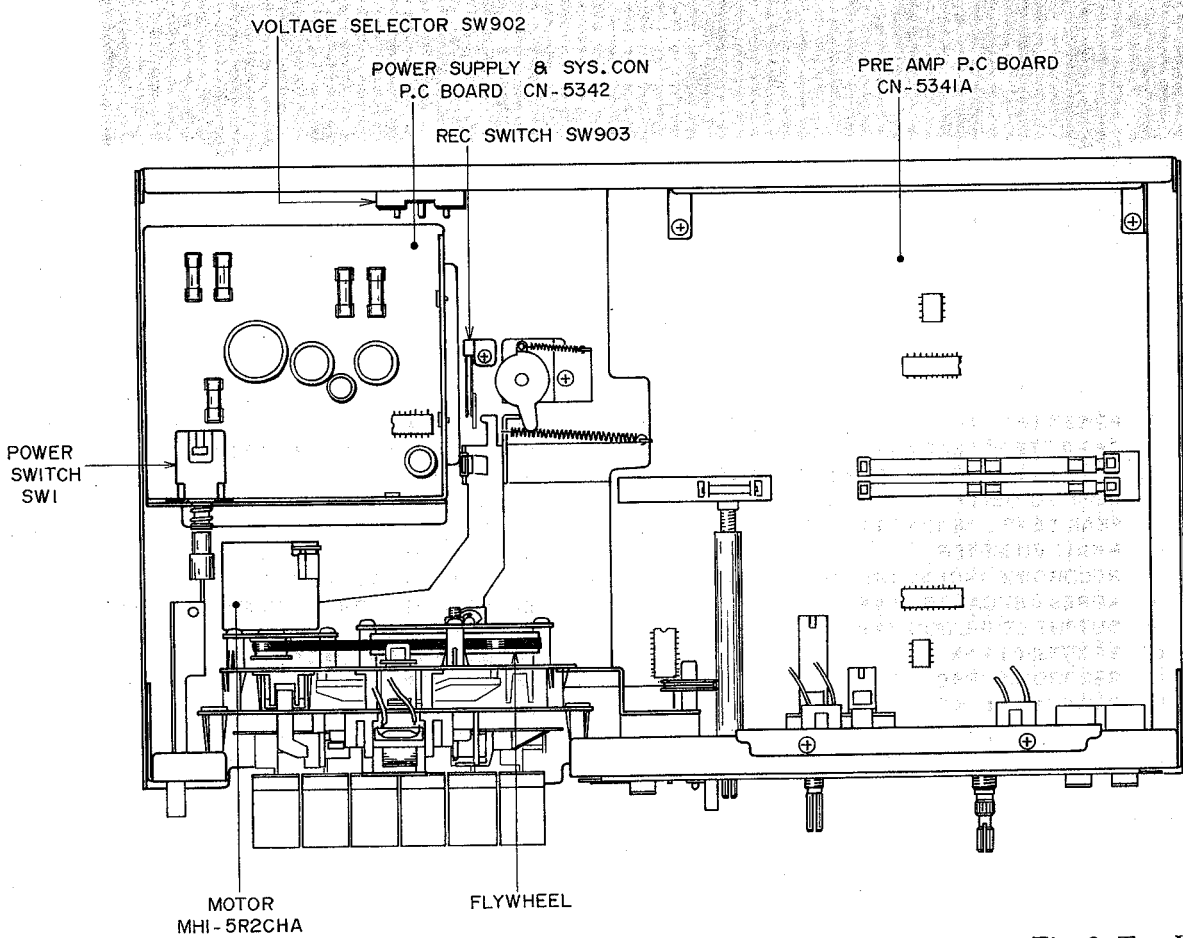


Fig. 3 Top View

V. OPERATING PRINCIPLES OF ADRES

1. General (see Fig. 4)

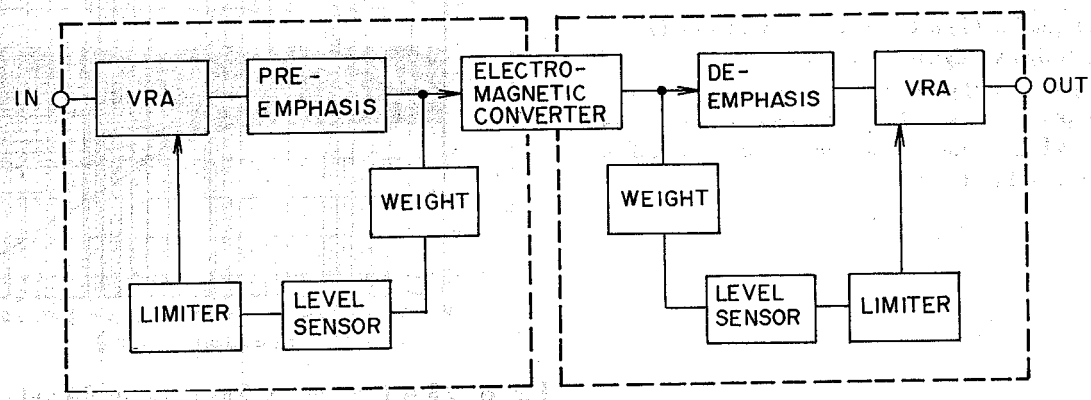


Fig. 4 ADRES Block Diagram

The ADRES, an abbreviation for the Automatic Dynamic Range Expansion System, is a circuit for expanding the system dynamic range. It is combination of a variable emphasis circuit to change the emphasis characteristic depending on the signal frequency with a recording compossor and playback expander effective in all dynamic range as illustrated in Fig. 3. The ADRES provides the following outstanding features:

a. A high signal-to-noise ratio is assured for use of cassette tape.
b. Breathing effect is minimized.
c. A high-level dynamic range can be expanded, particularly at high frequencies.

2. Circuit Construction

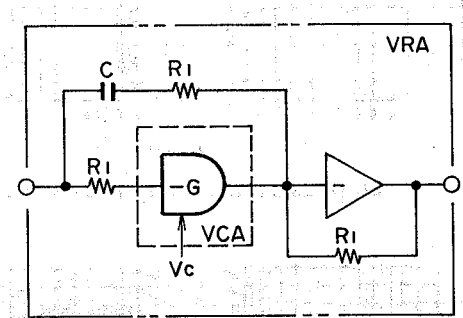
As seen from the block diagram in Fig. 4, the ADRES consists basically of a compander, including a VRA (Variable Response Amplifier), a level sensor that senses the control signal for controlling the VRA, and a weighting network for providing the level sensor with an appropriate frequency response.

The variable emphasis characteristic of the ADRES is attained by the VRA and a fixed emphasis circuit. The VCA (Voltage Control Amplifier) contained in the VRA is changed in the gain by the signal led from the level sensor to control the overall gain of the VRA. The VRA features that its frequency response is lowered at high frequencies to a high or low degree according as the gain of the VCA is small or high.

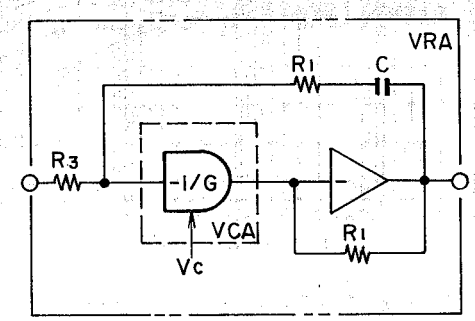
The combination of the VRA with the fixed emphasis circuit, therefore, decreases the amount of emphasis upon a high input level. This is effective in preventing suppression of recording tape and amplifier and also in reducing modulation noise.

The operation of the functional circuits in the ADRES will be briefly described in the following paragraphs.

(1) VRA (see Figs. 5 and 6)



a. Encode mode



b. Decode mode

Fig. 5 VRA Basic Circuit Diagrams

The VRA, an abbreviation for the Variable Response Amplifier, is a heart of the ADRES in the sense that a single control means, the VCA, in the VRA performs both gain control for companding operation and emphasis control. The VRA in the encode mode of operation as in Fig. 5a has a transfer function as

$$He(s) = \frac{R_3}{R_1} \times G \times \frac{1 + SCR_1(1 - 1/G)}{1 + SCR_1} \quad \ldots\ldots(1)$$

where $s = j\omega$ and G is the gain of the VCA. The VRA in the decode mode of operation as in Fig. 5b has a transfer function as

$$Hd(s) = \frac{R_1}{R_3} \times \frac{1}{G} \times \frac{1 + SCR_1}{1 + SCR_1 (1 - 1/G)} \quad \cdots (2)$$

As Equation (2) is the inverse of Equation (1), the original signal is restored in the overall frequency response from the recording input to the playback output. The frequency response of the VRA in the encode mode of operation is shown in Fig. 6 below.

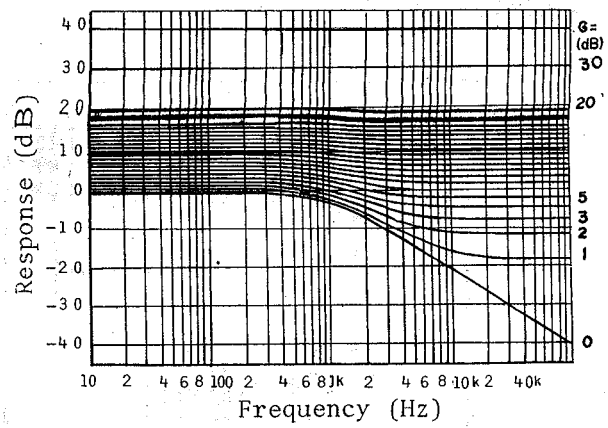


Fig. 6 VRA Frequency Response in Encode Mode of Operation

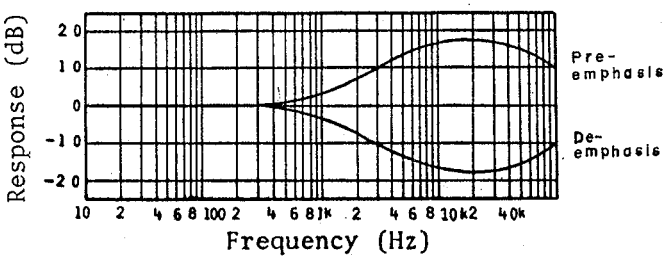


Fig. 7 Preemphasis and Deemphasis Characteristics

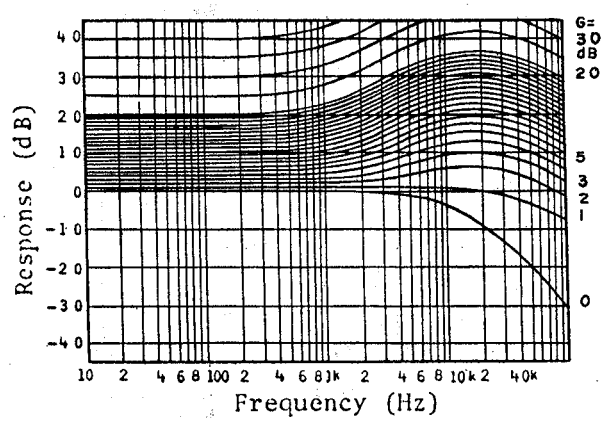


Fig. 8 Encoder Static Characteristics

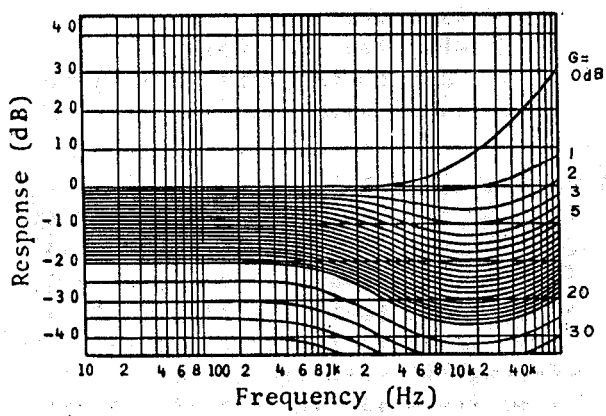


Fig. 9 Decoder Static Characteristics

(2) Preemphasis and deemphasis circuit (see Figs. 7 and 9)

Fig. 7 shows the preemphasis and deemphasis characteristics of the ADRES. In playback mode of operation, the deemphasis action lowers down the signal level at high frequencies to reduce the tape hiss as well as the sound level. To compensate the latter undesirable reduction, the preemphasis action has increase the sound level at high frequencies in the recording mode of operation. Thus, a flat frequency response is achieved in the overall cassette tape recorder system.

Fig. 8 shows the static characteristics of the main signal route of the encoder that is the combination of the VRA with the preemphasis circuit. As seen from the figure, when the input signal level is low, the encoder increases in the gain G because of compression and at the same time, raises up the response at high frequencies enough to emphasize. For a high input signal level, on the other hand, the encoder decreases in the gain G and at the same time, reduces the amount of emphasis to prevent saturation and modulation noise.

Fig. 9 shows the static characteristics of the main signal route of the decoder that is the combination of the VRA with the deemphasis circuit. It will be seen that the decoder static characteristics are the completes inverse of the above-mentioned encoder static characteristics.

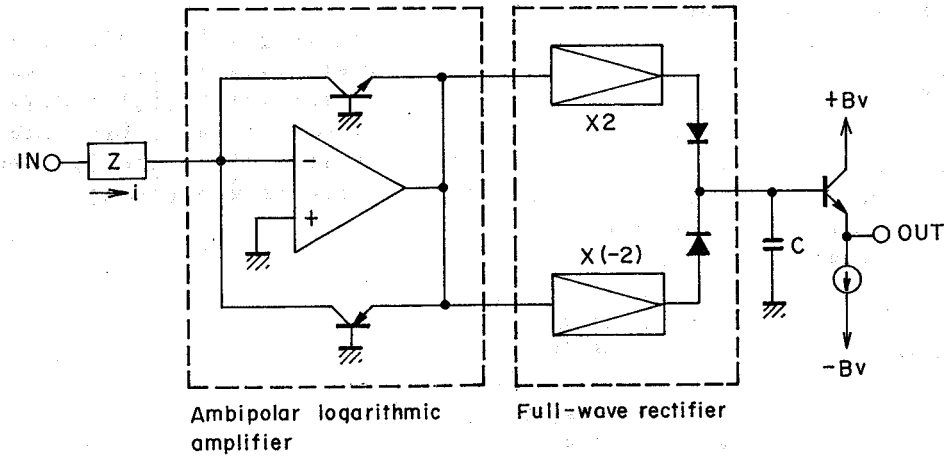


Fig. 10 Level Sensor Block Diagram

(3) Level sensor (see Fig. 10)

The level sensor is a circuit that detects the input signal in the rms and produces a control signal in logarithmic proportion to the rms values. As shown in Fig. 10, the level sensor is based on a ambipolar logarithmic amplifier that has a logarithmic characteristic symmetric with respect to the signal polarity, positive and negative.

In Fig. 10, the input signal passes the impedor $\underline{Z}$ to lead current $\underline{i}$ to the inverter in the operational amplifier. The operational amplifier and NPN and PNP transistors comprise the ambipolar logarithmic amplifier. The operational amplifier magnifies the signal in the ambipolar logarithmic frequency response. The output signal, positive in the encoding mode of operation or negative in the decoding mode, is fed to the fullwave rectifier.

The full-wave rectifier is comprised of a positive and negative amplifiers and diode rectifiers. The amplifiers magnify the input signal two times positively in the encoding mode of operation or negatively in the decoding mode. The current passing each diode rectifier, given in terms of a square of the input current, is averaged through the capacitor C. The voltage output of the emitter of the transistor, therefore, is in proportion to the root-mean-square valus of the input current.

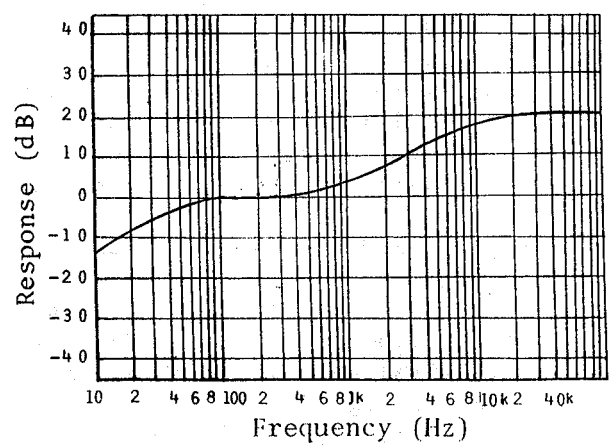


Fig. 11 Level Sensor Weighting Response

(4) Weighting circuit (see Fig. 11)

The weighting circuit raises up the sensitivity of the level sensor at high frequencies to further prevent possible saturation at high frequencies in the recording mode of operation.

(5) Limiter

As seen from Figs. 8 and 9, the response curves for the gain G near 0 dB change to a great extent with frequency. It will be therefore necessary to make the recording and playback signal levels coincide precisely. To eliminate such a delecate manipulation, the soft limiter reduces the output change of the level sensor at high levels so that the level sensor may be lowered in the sensitivity of level misalignment in the recording and playback modes of operation for ease of manipulation. However, high the signal level may be, also, the limiter serves restriction of preventing the gain from being not highter than the unity (1), or keeps that $G > 1$, not $G \leqq 1$.

3. Requirements for Other Circuits Associated With ADRES

(1) Power supply output impedance

As the ADRES is made up of elaborate circuitries such as the operational amplifier, strict consideration is exercised in the ±9.5 V power supply as to the balance of the positive and negative voltages, the rising tracking characteristic and positive and negative timings, and the ripples. The power supply employed in the GXC-706DX includes an error detection regulated power supply and a power supply of IC (TA-7179P) for tracking.

The power supply must have the output impedance as low as possible as the ADRES operates in a wide dynamic range. For the purpose, capacitors C39 and C40 (1000μF each) and C41 and C42 (1μF) are placed in the vicinity of the load circuit of each channel.

(2) Input circuit signal-to-noise ratio

It may occur that the overall signal-to-noise ratio of the GXC-706DX is determined by that of the circuits preceding the magnetic recording and playback system improved to have a relatively high signal-to-noise ratio by the ADRES. This means that the signal-to-noise ratio of the circuits preceding the encoder must be as high as possible. For the purpose, the microphone pre-amplifier uses a FET at the first stage and a low-noise PNP transistor at the second stage, thereby attaining as high a signal-to-noise ratio as possible, involving the quality of noise.

With respect to the line input signal, particular consideration is given in use of a low-noise transistor and similar noise preventive means.

(3) Input circuit distortion

Signal distortion due to the signal input circuit must be minimized as little as possible if any to prevent it form being emphasized by the encoder. Note that the distortion of the input circuit in the GXC-706DX is around 0.02%.

(4) Input circuit linearity

Special consideration must be given in the linearity of the signal input circuit because the tape saturation level is apparently raised up by the ADRES. The linearity of the line amplifier is as much as +23 dB in reference to 0 VU.

(5) Recording amplifier linearity

The recording amplifier must have allowance of linearity enough to avoid saturation by any recording signal preemphasized by the ADRES in the encoding mode of operation. The reason is that instantaneous encoding of an given sound signal is made in the same manner as the fixed preemphasis characteristic only. The recording amplifier has linearity as much as +18 dB.

(6) Bias leakage

Bias leakage in the encoding mode of operation, if any, adversely affects the complementarity of the recording and playback frequency responses as with the case the Dolby system. The input circuit, therefore, has two bias filter stages placed to minimize the bias leakage.

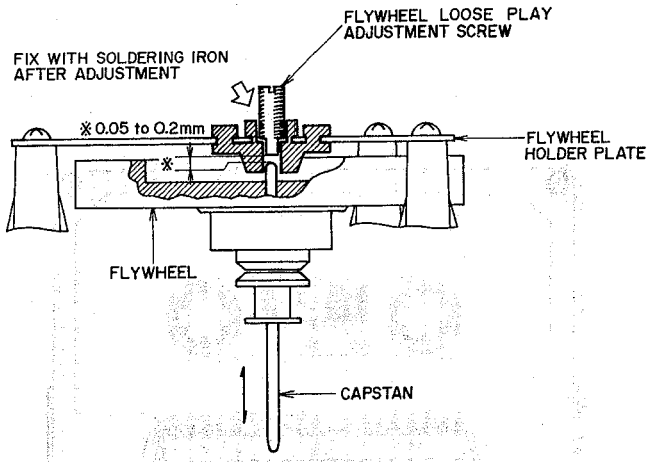


Fig. 12 Flywheel Loose Play Adjustment

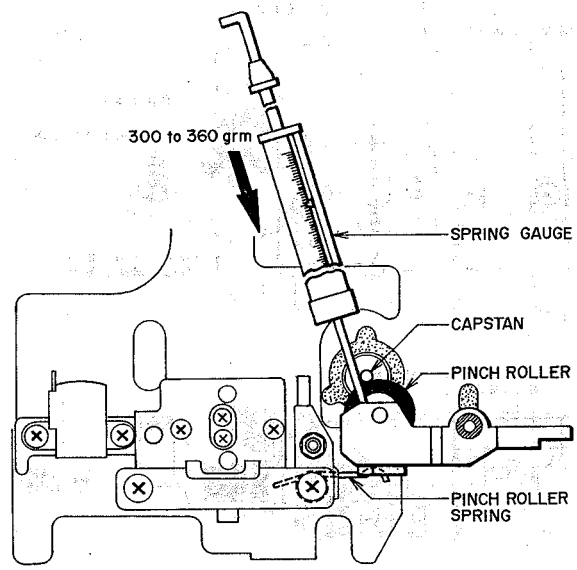


Fig. 13 Pinch Roller Pressure Measurements

1. Flywheel Loose Play Adjustment (See Fig. 12)

Adjust the flywheel loose play adjustment screw until the flywheel loose play is 0.05 to 0.2 mm when the flywheel is moved as indicated by the arrow mark.

2. Pinch Roller Pressure Measurement (See Fig. 13)

In the playback mode of operation, push the pinch roller with a spring gauge until the pinch roller separates about 1 to 2 mm from the capstan, then gently return it. Read the spring gauge at the moment the pinch roller touches the capstan and begins rotation.

Specified Pinch Roller Pressure: 300 to 360 grm.

In case the specified pressure cannot be attained, replace the pinch roller spring.

3. Take-up Torque in Various Modes

Playback mode: 35 to 55 grm-cm.
Fast-forward mode: 70 to 120 grm-cm.
Rewind mode: 70 to 120 grm-cm.

In case the specified take-up torque cannot be attained, follow.

(1) In the playback mode of operation, replace the take-up reel table block comp.
(2) In the fast-forward or rewind mode of operation, replace the middle lever part.

4. Mute Switch Adjustment (See Fig. 14)

In the playback mode of operation, the space should be 0.5 to 1 mm as in Fig. 14. To adjust, turn the leaf switch screw.

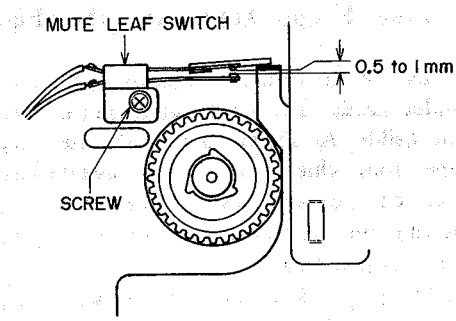


Fig. 14 Mute Switch Adjustment

5. Motor Switch Adjustment (See Fig. 15)

In the STOP position, the space between the upper part of the brake slide switch and the lower part of the motor leaf switch should be 0.5 + 0.5 to – 0 mm. To adjust loosen the leaf switch screw and move the leaf switch.

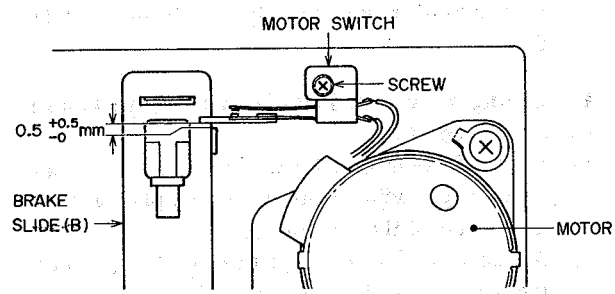


Fig. 15 Motor Switch Adjustment

6. Tape Speed Adjustment (See Fig. 16)

Playback a 1,000 Hz pre-recorded test tape and adjust the tape speed adjustment screw until the tape speed is 1,000 Hz ±2%.

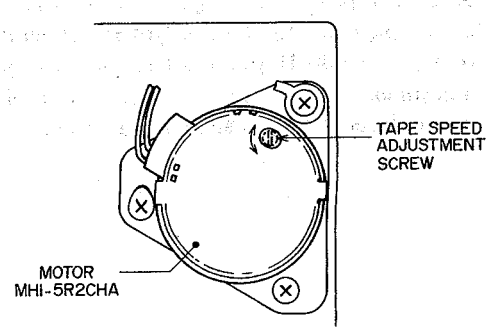


Fig. 16 Tape Speed Adjustment

VII. HEAD ADJUSTMENT

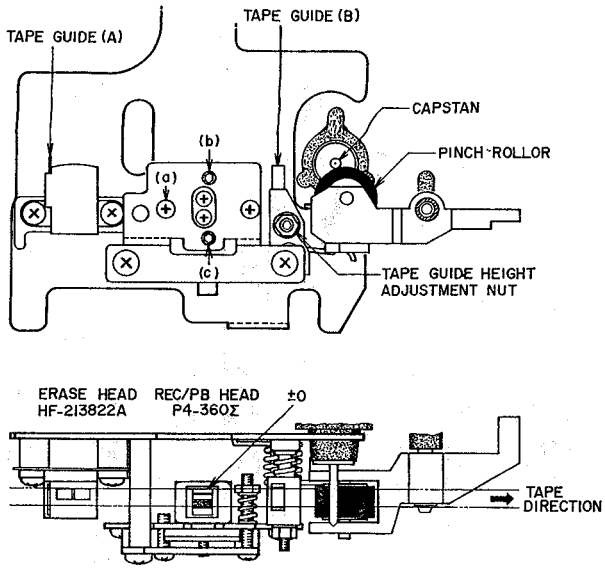


Fig. 17 Head Adjustment

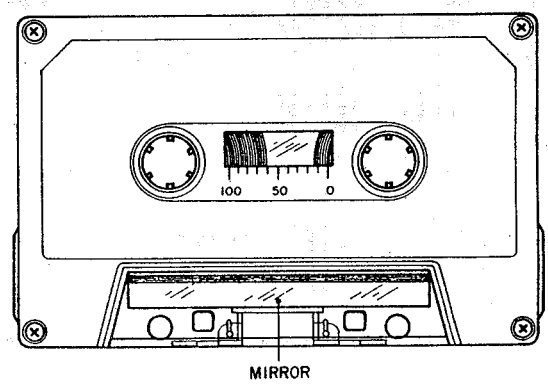


Fig. 18 Mirror Cassette Tape

1. Tape Guide Height Adjustment (See Fig. 17, 18)

1) In use of an ordinary cassette tape, the tape guides heads, and similar mechanical parts are not visible. As shown in Fig. 18, use a cassette tape from which parts of the cassette case has been cut out and mirror installed for ease of viewing the head area when making tape guide height adjustment.
2) In the playback mode of operation, using the tape guide (A) shown in Fig. 17 as standard for height, adjust the tape guide (B) height with the tape guide height adjustment nut so that the tape runs smoothly and does not catch on the tape guides.

2. Recording/Playback Head Height Adjustment (See Figs, 16, 17)

1) Load the same cassette tape as used in the tape guide height adjustment above, and playback the leader part of the cassette tape.
2) As shown in Fig. 17, adjust the head height with the screws (a), (b), and (c) until the upper edge of the tape is the same height as that of the left channel REC/PB head core.
3) After completing the adjustment in Item 2-2) above, playback the head height adjustment tape (4 track, 1,000 Hz) and adjust the head height adjustment screws (a), (b), and (c) until the output level of each channel is maximum.

3. Recording/Playback Head Azimuth Alignment Adjustment (See Fig. 17)

1) Playback a 10 kHz pre-recorded cassette azimuth alignment test tape and adjust the screw (a) shown in Fig. 17 until the output power of each channel is maximum.
2) Invert the cassette tape and make certain that the output level does not change from that obtained in Item 3-1) above. If the output level differs, adjust in the same way as in Item 3-1) above until both sides of the test tape display equal output.
3) After adjustment, it is better to check the head height and azimuth alignment again.

PRECAUTIONS

1. Be sure to clean the heads prior to any head adjustment.
2. Be careful not to use a magnetized screw driver or other magnetized tools in the vicinity of the heads.
3. Be sure to demagnetize the heads with a Head Demagnetizer before and after head adjustment.
4. When a mirror-equipped cassette test tape as in Fig. 18 is required, it can be ordered from AKAI Electric Co.

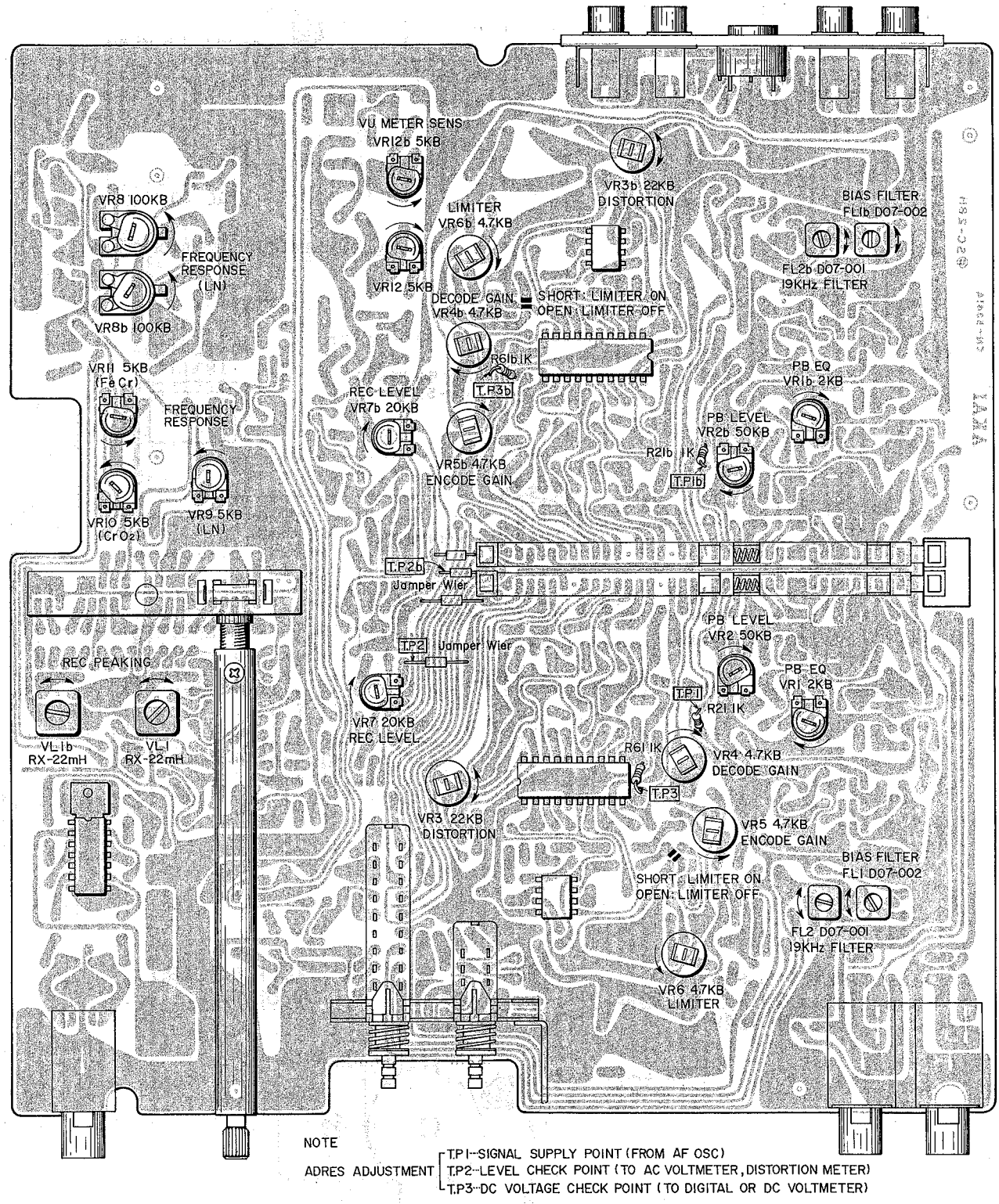


Fig. 19 Pre Amp P.C Board CN-5341A

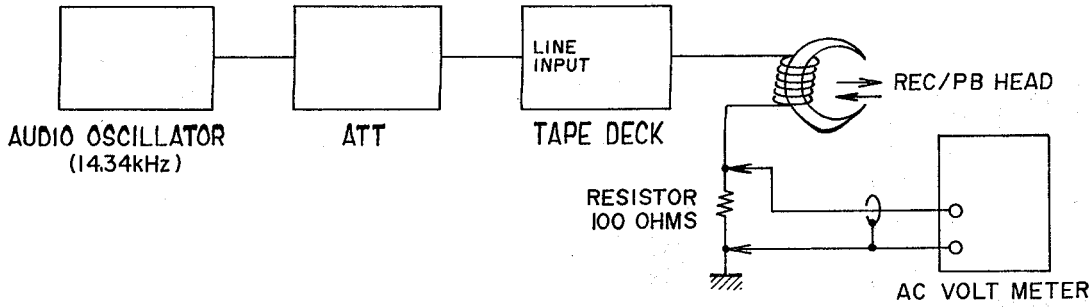
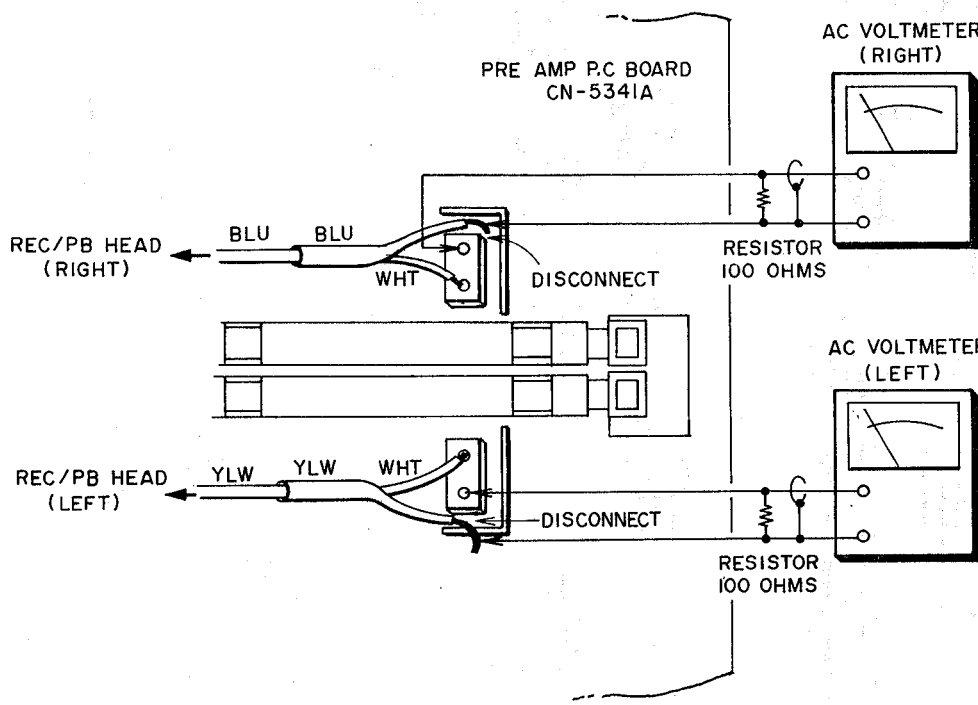


Fig. 20 Instruments Connection



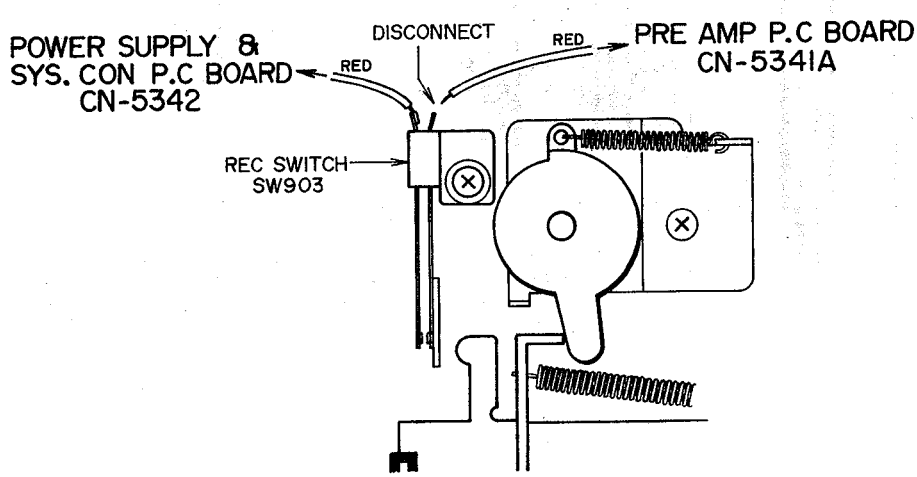


Fig. 21 Rec Peaking Adjustment

1. Amplifier Adjustment (See Figs. 19 Thru 21)

Step	Adjustment Item	Test Tape Supply Signal	Mode	Adjustment Point	Result	Remarks
1	Playback Level	333 Hz, 0VU test tape	PLAY	VR2 50 kB	−5.5 ±0.5 dBm(410mV)	
2	VU Meter Sensitivity	1,000 Hz from oscillator	REC	VR12 5 kB	0 VU indication	See NOTE 3
3	Playback Equalizer	10 kHz test tape	PLAY	VR1 2 kB	−19.5 dBm	
4	Record Peaking	14.34 kHz from oscillator	REC	VL1 RX-22mH	Max. AC voltmeter indication	See NOTE 7 and Figs. 20, 21
5	LN Position Frequency Response	Low noise blank tape, 1,000 Hz, 10,000 Hz, −25.5 dB recording	REC/ PLAY	VR8 100 kB	1,000 to 10,000 Hz flat	
6	LH Position Frequency Response	LH blank tape 1,000 Hz, 10,000 Hz, −25.5 dB recording	REC/ PLAY	VR9 5 kB	1,000 to 10,000 Hz flat	Set TAPE SELECTOR to LH (See NOTE 8).
7	CrO_2 Position Frequency Response	CrO_2 blank tape, 1,000 Hz, 10,000 Hz, −25.5 dB recording	REC/ PLAY	VR10 5 kB	1,000 to 10,000 Hz flat	Set TAPE SELECTOR to CrO_2 (See NOTE 8).
8	FeCr Position Frequency Response	FeCr blank tape, 1,000 Hz, 10,000 Hz, −25.5 dB recording	REC/ PLAY	VR11 5 kB	1,000 to 10,000 Hz flat	Set TAPE SELECTOR to FeCr (See NOTE 8).
9	Recording Level	Low noise blank tape, 1,000 Hz, −5.5 dB recording	REC/ PLAY	VR7 20 kB	−5.5 ±0.5 dBm (410mV)	
10	Distortion Factor Confirmation	1,000 Hz, −5.5 dB recording	REC/ PLAY	LN: Less than 1.3% LH: Less than 1.3% CrO_2: Less than 1.5% FeCr: Less than 1.5%		See NOTE 9.
11	Bias Leak	85 kHz from oscillator	REC	FL1 007-002 (ORG)	Minimum AC voltmeter indication	
12	19 kHz Filter	19 kHz from oscillator	REC	FL2 007-001 (BLK)	Minimum AC voltmeter indication	ADRES switch to ON (see NOTE 10 and 11)

Chart-1

NOTE:
1. The OUTPUT LEVEL control should be at maximum.
2. Because each of these adjustments is vital to perfect the ADRES circuit operation, be sure that it is carried out with an error as little as possible.
3. Supply the 1,000 Hz signal from the oscillator, adjust the REC LEVEL controller the oscillator output to give an output of −5.5 dBm (410 mV).
4. Except for Steps 6 through 8 and 10 and 11, set the TAPE SELECTOR to the LN (Low noise) position.
5. Except for Step 12, set the ADRES switch to the OFF position.
6. Use the following cassette measuring tapes:
   - LN tape: Fuji FL C-60
   - LH tape: Maxell UD C-60
   - CrO_2 tape: TDK SA C-60
   - FeCr tape: Sony Duad C-60

7. Stop the recording bias oscillator while making record peaking adjustment (refer to Figs. 20 and 21).
8. If a flat response cannot be obtained from 1,000 to 10,000 Hz at the LH, CrO_2, or FeCr position, finely adjust at VR9 (LH), VR10 (CrO_2), or VR11 (FeCr), respectively.
9. If it does not comply with the specifications, repeat Steps 5 through 9 and re-adjust.
10. Adjust the oscillator's frequency until the frequency counter reads 1,900 kHz.
11. Unless the core is moved intentionally, this adjustment is not necessary.

2. ADRES Adjustment (See Figs. 19, 22)

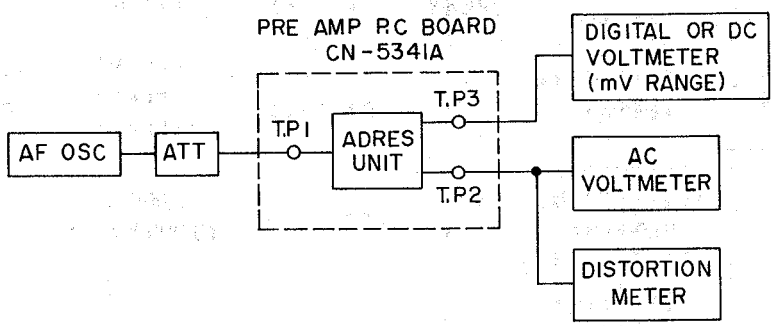


Fig. 22 Instruments Connection

Step	Adjustment Item	Supply Signal	Mode	Adjustment Point	Result	Remarks
1	Input Level Setting	1 kHz from AF OSC	STOP	AF OSC output level	−8.5 dBm	ADRES switch at OFF
2	Temporary Encode Gain	1 kHz from AF OSC	REC/ PAUSE	VR5 4.7 kB	−8.5 dBm	ADRES switch at ON (See NOTE 7)
3	Distortion	1 kHz from AF OSC	REC/ PAUSE	VR3 2.2 kB	Minimum distortion	See NOTE 7
4	Precise Encode Gain	1 kHz from AF OSC	REC/ PAUSE	VR5 4.7 kB	−8.5 dB	Voltage (denoted by V_{CE}) at TP3 should be 0 to −1.5mV (See NOTE 7)
5	Decode Gain	1 kHz from AF OSC	PLAY/ PAUSE	VR4 4.7 kB	$-V_{CE}$ at TP3	See NOTE 7.
6	Limiter in Encode Mode	10 kHz from AF OSC	REC/ PAUSE	VR6 4.7 kB	−10.5 dBm	Let voltage at TP3 for −2dB in reference to response be V_{CE} (LIM) (See NOTE 8).
7	Limiter Checking in Decode Mode	10 kHz from AF OSC	PLAY/ PAUSE		$-V_{CE}$(LIM) ±2mV at TP3	See NOTE 8.

Chart-2

NOTE:
1. The INPUT SELECTOR pushswitch should be kept in the LINE position (out).
2. The REC LEVEL control should be turned all the way to the right (maximum).
3. The TAPE SELECTOR switch and OUTPUT LEVEL control may be in any position.
4. TP2 is an input to the ADRES when the ADRES switch is in the OFF position (out) and is an output of the ADRES when the switch is ON (in).
5. The ADRES switch should be kept in the ON position (in) except Step 1.
6. The bias filters FL 1 should have been completely adjusted as directed in Section 1, Step 11 before the ADRES adjustment is carried here.
7. In Steps 2 through 5, disconnect the limiter for no action by unsoldering the connection at the P.C board point indicated on Fig. 19.
8. The disconnected point should be resoldered for action of the limiter.

IX. DC RESISTANCE OF VARIOUS HEADS

Parts	Designation	DC Resistance
Recording/Playback Head	P4-360 sigma	370 ohms
Erase Head	HF213822A	4.5 ohms

Chart-3

X. CLASSIFICATION OF VARIOUS P. C BOARDS

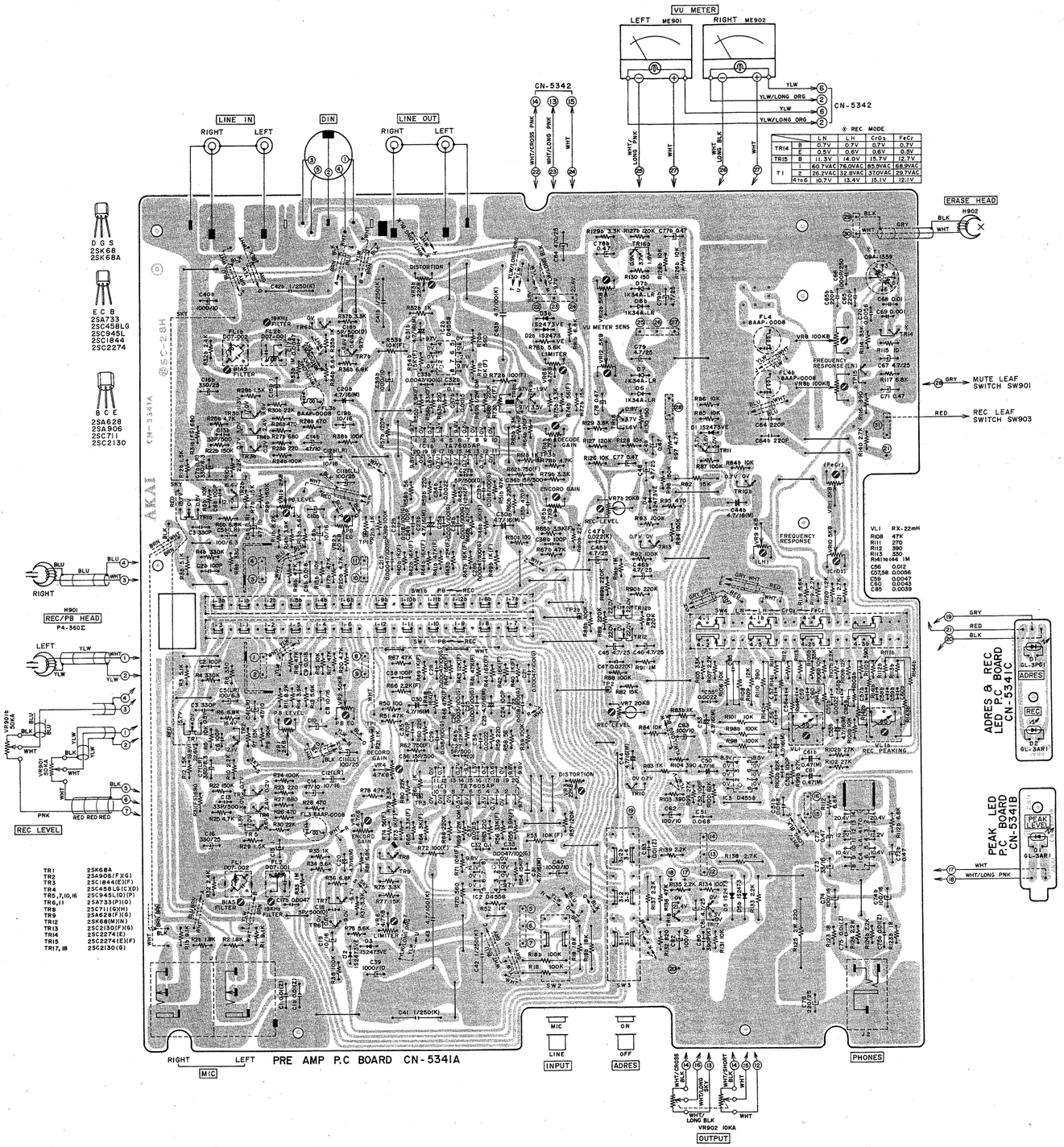
1. P.C BOARD TITLES AND IDENTIFICATION NUMBERS

P.C Board Title	P.C Board Number
Pre Amp P.C Board	CN-5341A
Power Supply & Sys. Con P.C Board	CN-5342
Peak LED P.C Board	CN-5341B
ADRES & Rec LED P.C Board	CN-5341C
Housing Lamp P.C Board	CN-5303

Chart-4

2. COMPOSITION OF VARIOUS P.C BOARDS

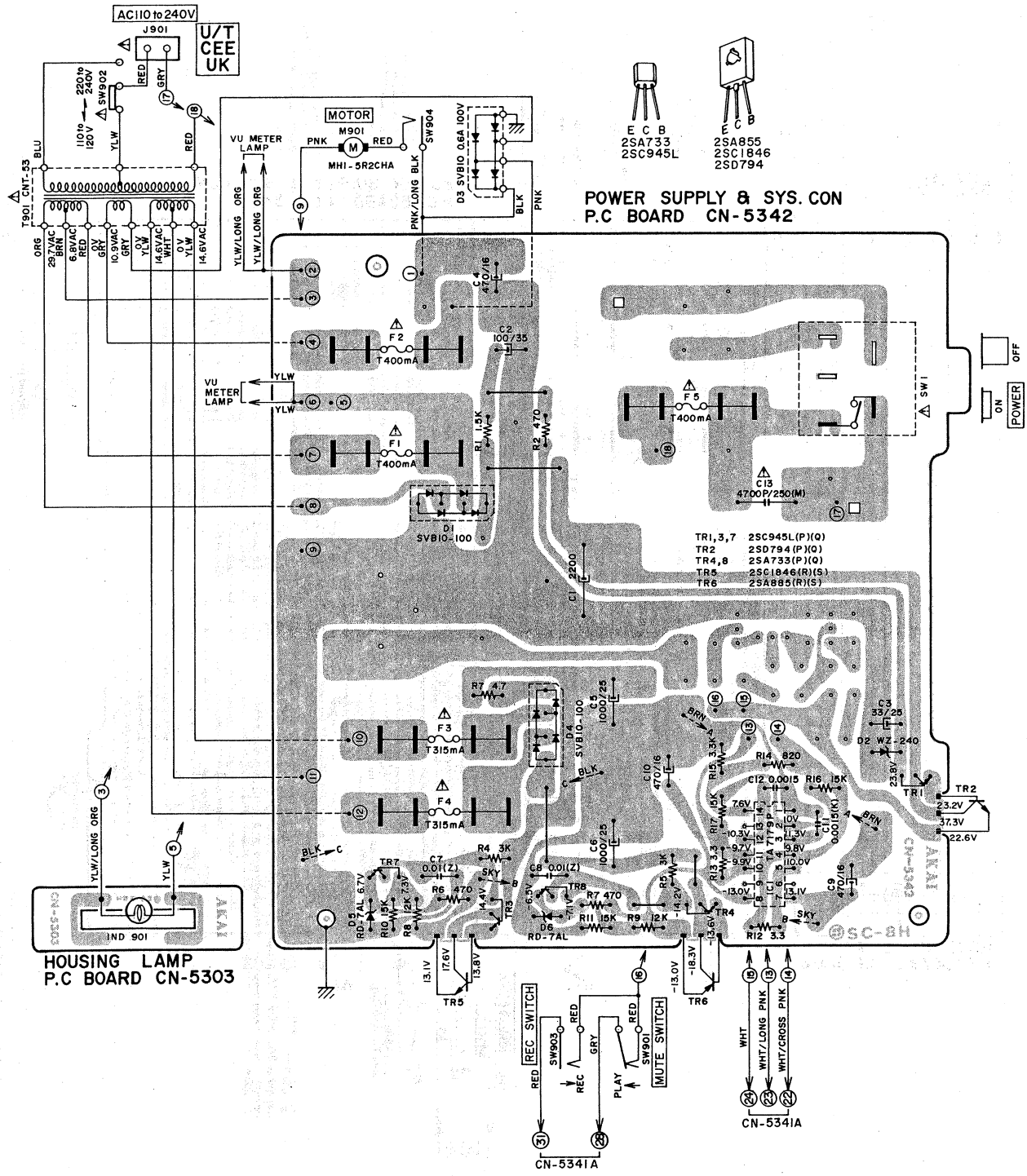
1) PRE AMP P.C BOARD CN-5341A, PEAK LED P.C BOARD CN-5341B AND ADRES & REC LED P.C BOARD CN-5341C



		LN	LH	CrO2	FeCr
TR14	B	0.7V	0.7V	0.7V	0.7V
	E	0.5V	0.6V	0.6V	0.9V
TR15	B	11.3V	14.0V	15.7V	12.7V
T1	1	60.7VAC	76.0VAC	85.9VAC	68.9VAC
	2	26.2VAC	32.8VAC	37.0VAC	29.7VAC
	4 to 6	10.7V	13.4V	15.1V	12.1V

TR1	2SK68A
TR2	2SA906(F)(G)
TR3	2SC1844(E)(F)
TR4	2SC458LG(C)(D)
TR5,7,10,16	2SC945L(Q)(P)
TR6,11	2SA733(P)(Q)
TR8	2SC711(G)(H)
TR9	2SA628(F)(G)
TR12	2SK68(M)(N)
TR13	2SC2130(F)(G)
TR14	2SC2274(E)
TR15	2SC2274(E)(F)
TR17, 18	2SC2130(G)

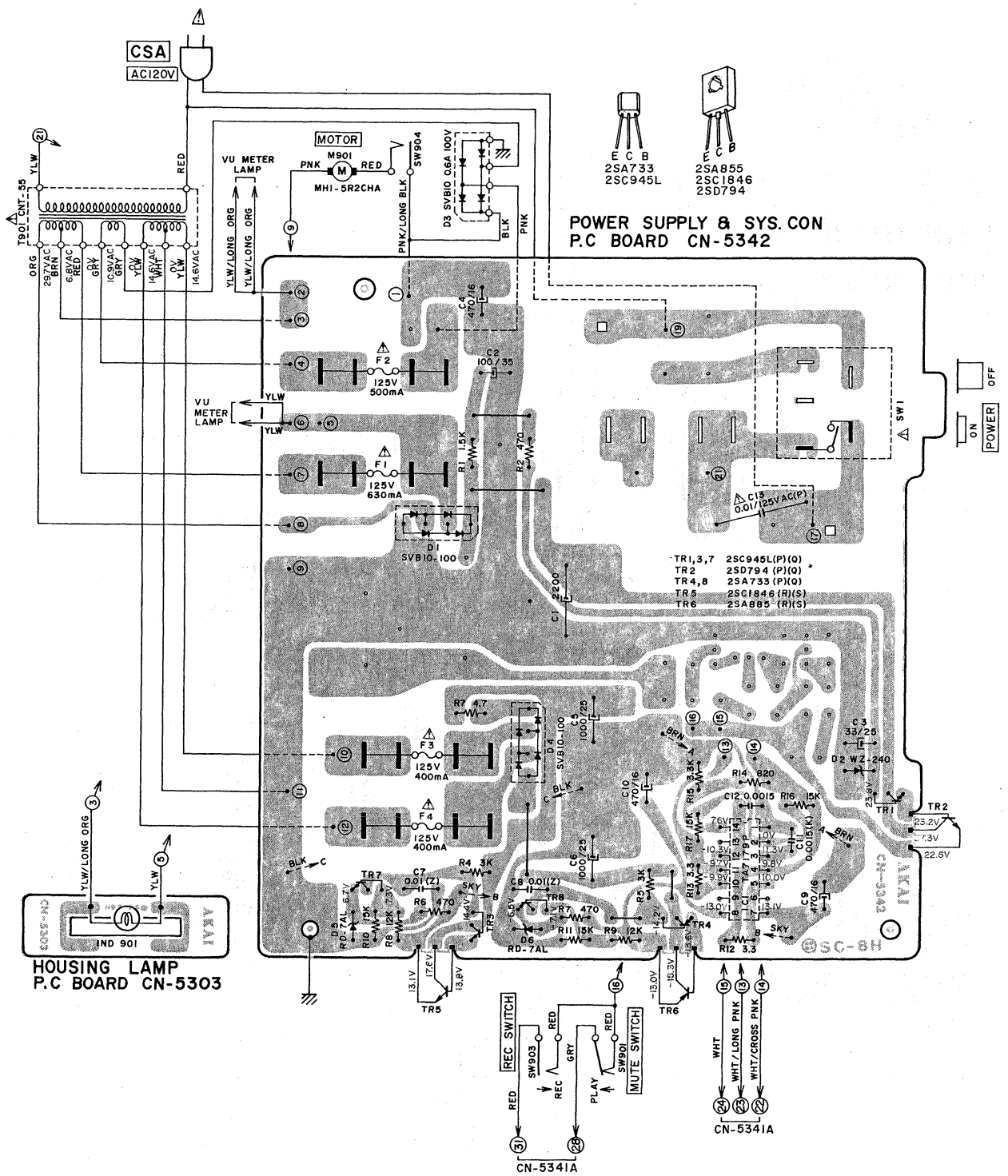
2) POWER SUPPLY & SYS. CON P.C BOARD CN-5342 (U/T, CEE, UK) AND HOUSING LAMP P.C BOARD CN-5303



WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

3) POWER SUPPLY & SYS. CON P.C BOARD CN-5342 (CSA) AND HOUSING LAMP P.C BOARD CN-5303



WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

SECTION 2

PARTS LIST

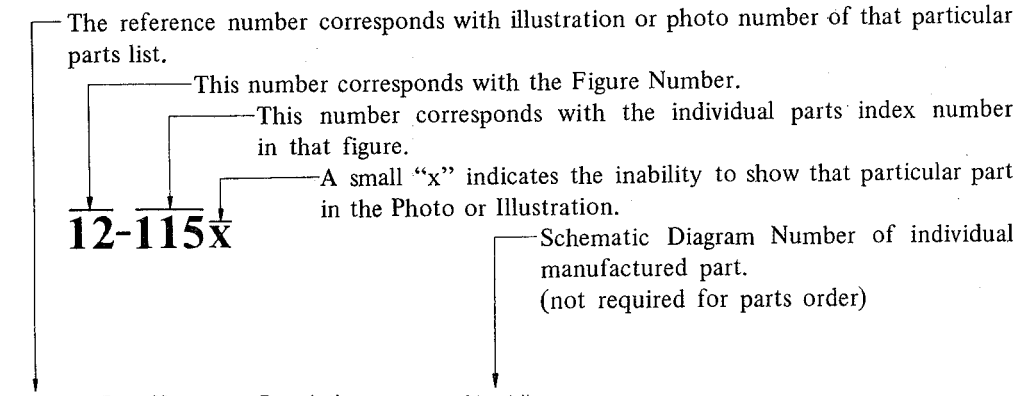
TABLE OF CONTENTS

1. RECOMMENDED SPAIR PARTS LIST 28
2. HEAD BLOCK 30
3. MOTOR BLOCK 31
4. MECHA FRAME BLOCK 32
5. PRE AMP P.C BOARD COMP. 34
6. POWER & SYS. CON P.C BOARD COMP. 35
7. FINAL ASSEMBLY BLOCK 36
8. FINAL ASSEMBLY BLOCK 38
INDEX 39

Resistor and Capacitor which is not listed in this parts list, please refer to COMMON LIST FOR SERVICE PARTS.

HOW TO USE THIS PARTS LIST

1. *This parts list is compiled by various individual blocks based on assembly process.*
2. When ordering parts, please describe parts number, serial number, and model number in detail.
3. How to read list.


The reference number corresponds with illustration or photo number of that particular parts list.
This number corresponds with the Figure Number.
This number corresponds with the individual parts index number in that figure.
A small "x" indicates the inability to show that particular part in the Photo or Illustration.
12-115x
Schematic Diagram Number of individual manufactured part.
(not required for parts order)

Ref. No.	Parts No.	Description	Schematic No.
		FLYWHEEL BLOCK #13	
12-115x	800425	Flywheel Block Assy. Comp.	RDG #13
12-116	244506	Flywheel Only	RD-233
12-117x	244754	Felt, Flywheel	RD-275
12-118	251324	Main Metal Case	RD-236
12-119	253080	Main Metal	RD-237

4. The symbol numbers shown on the P.C. Board list can be matched with the Composite Views of components of the Schematic Diagram or Service Manual.
5. The indications of Resistors and Capacitors in the photos of P.C. Board are being eliminated.
6. The shape of the parts and parts name, etc. can be confirmed by comparing them with the parts shown on the Electrical Parts Table of P.C. Board.
7. Both the kind of part and installation position can be determined by the Parts Number. To determine where a parts number is listed, utilize Parts Index at end of Parts List.
   It is necessary first of all to find the Parts Number. This can be accomplished by using the Reference Number listed at right of parts number in the Parts Index. (meaning of ref. no. outlined in Item 3 above).
8. Utilize separate "Price List for Parts" to determine unit price. The most simple method of finding parts Price is to utilize the reference number.

CAUTION:

1. When placing an order for parts, be sure to list the parts no. model no., and description. There are instances in which if any of this information is omitted, parts cannot be shipped or the wrong parts will be delivered.
2. Please be careful not to make a mistake in the parts no. If the parts no. is in error, a part different from the one ordered may be delivered.
3. Because parts number and parts unit supply in the Preliminary Service Manual (Basic Parts List) may be partially changed, please use this parts list for all future reference.

WARNING: ⚠ INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMEMNDED PARTS.

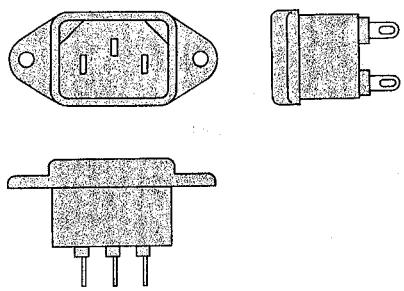
AVERTISSEMENT: ⚠ IL INDIQU LES COMPOSANTS CRITIQUES DE SURETE. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES COMPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT.

AC INLET SYSTEM

This model is equipped with an AC INLET SYSTEM. Please refer to the AC INLET SYSTEM CHART below for the specific type. By the AC INLET SYSTEM, AC (mains) cord can be connected to and disconnected from the model because the model is provided with socket exclusively for AC (mains) cord on its main body.
Please note, however, that certain models are not equipped with this system and has a built-in AC (mains) cord as before.

AC INLET SYSTEM CHART

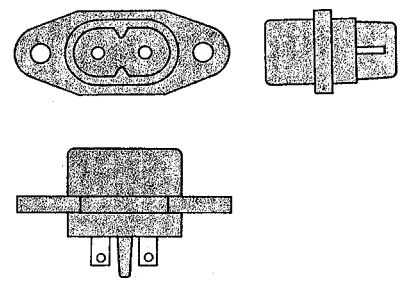
CLASS I

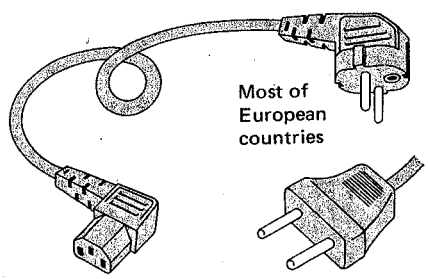


Picture 1
AC INLET to be installed on machines

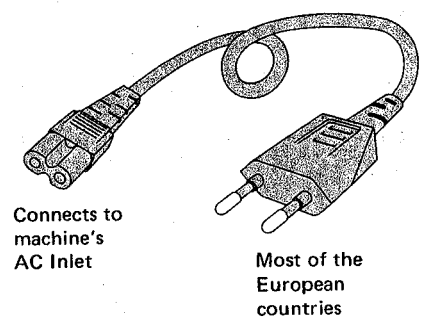
CLASS II

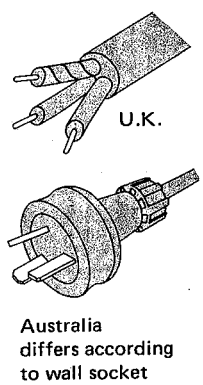
▣ This mark indicating double insulation will be attached to machine's rear panel

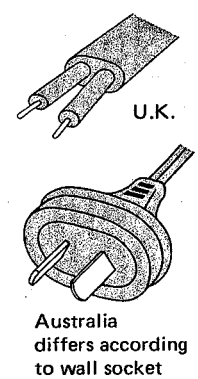




Picture 2
AC (mains) cord







Parts List for AC (mains) Cord Set

Standard		Description	Type of AC Inlet	Parts No.
Class I	CEE	Cord Set CEE (3 cores)	3P	EW302993
	BEAB	Cord Set BEAB (3 cores)	3P	EW302994
	SAA	Cord Set SAA (3 cores)	3P	EW302996
	U/T	Cord Set U/T (3 cores)	3P	EW302646
Class II	CEE	Cord Set CEE (2 cores)	2P	EW638144
	BEAB	Cord Set BEAB (2 cores)	2P	EW302995
	SAA	Cord Set SAA (2 cores)	2P	EW302991
	U/T	Cord Set U/T (2 cores)	2P	EW302899

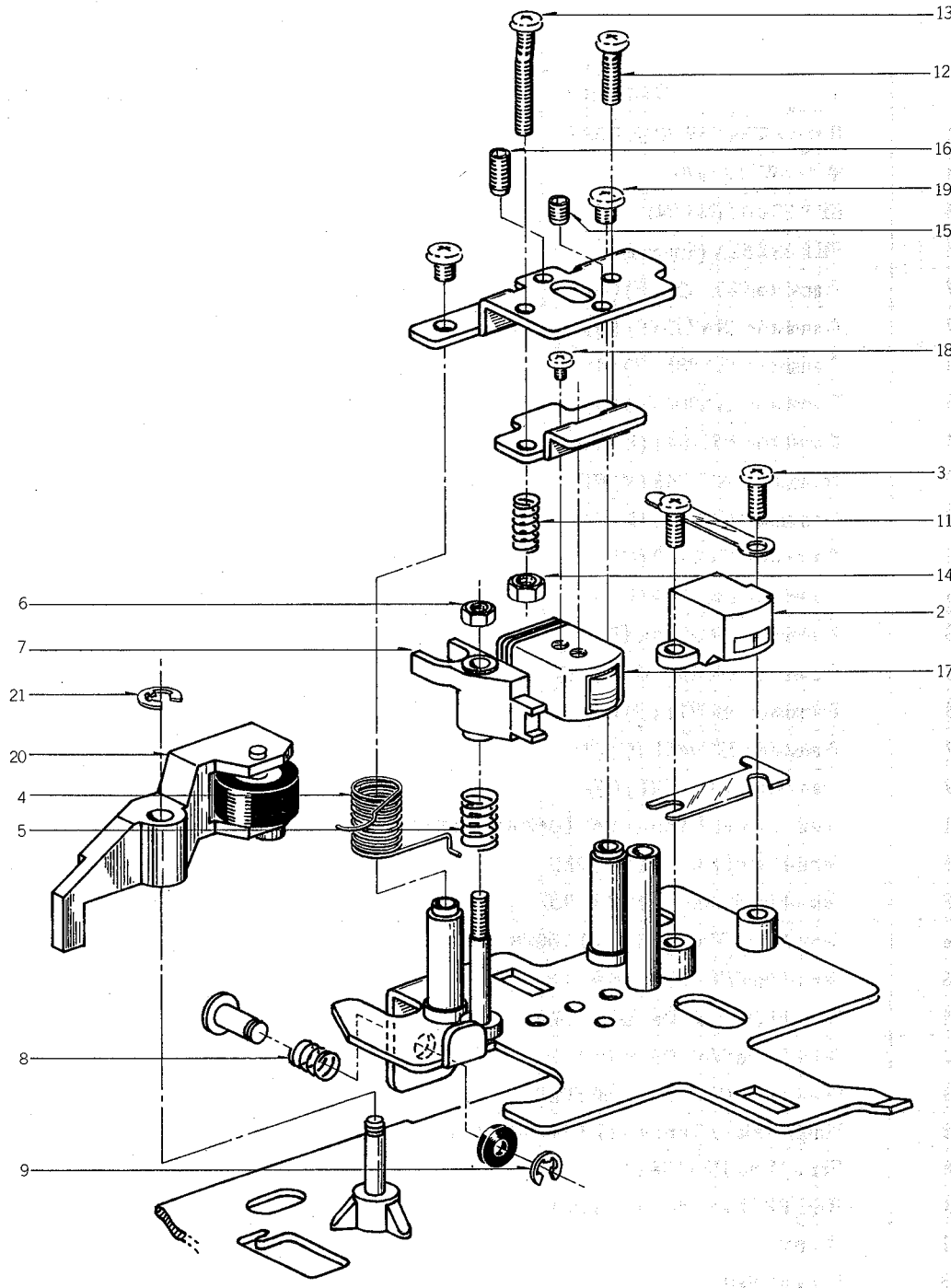
1. RECOMMENDED SPAIR PARTS LIST

Because, if the parts listed below are on hand, almost any repair can be accomplished, we suggest that you stock these Recommended Spare Parts Items.

Parts No.	Description	Note
BA310973	Power & Sys. Con P.C Board Comp. GXC-706DX(CSA)	
BA310971	Power & Sys. Con P.C Board Comp. GXC-706DX(U/T)	(U/T, CEE, UK)
BA310985	Pre Amp P.C Board Comp. GXC-706DX	
BH305861	Head Block Comp. GXC-706D	
BL311391	Pinch Roller Block Comp. GXC-704D	
BM318854	Motor Block Comp. GXC-706DX	
BM318854	Motor Block Comp. GXC-706DX	
BT314634	⚠ Power Trans. CNT-53	(U/T, CEE, UK)
BT314635	⚠ Power Trans. CNT-55	(CSA)
BZ282881	Auto Stop Comp.	
ED308952	Germanium Diode 1K34A-LR	
ED249377	LED GL-3AR1	
ED283138	LED GL-3PG1	
ED308945	Silicon Diode SVB10-100	
ED624903	Silicon Diode 1S2473	
ED560913	Silicon Diode 1S2473 VE	
ED538042	Zener Diode RD-7A(L)	
ED242368	Zener Diode WZ-240	
EF308848	⚠ Fuse 400mA 125V	(CSA)
EF309390	⚠ Fuse 500mA 125V	(CSA)
EF305703	⚠ Fuse 630mA 125V	(CSA)
EF668474	⚠ Fuse (SEMKO T Type) 400mAT	(U/T, CEE, UK)
EF695766	⚠ Fuse (SEMKO T Type) 315mAT	(U/T, CEE, UK)
EI213390	IC D-4558	
EI306141	IC LA4170	
EI314647	IC TA-7179P	
EI314644	IC TA-7605AP	
EL283184	Lamp (L/T) 8V 100mA	
EM305634	VU Meter S11ADR68B	
EO346230	Inductor RX 22MH	
EO283050	OSC. Coil 09A-1359	
EO309363	Trap Coil 8AAP-0008	
ER309119	Dolby Filter D07-001	
ER309361	Dolby Filter D07-002	
ES306430	⚠ Slide SW. J-S4013 #01	(U/T, CEE, UK)
ES301747	Leaf SW. BSW-1F TX-2	
ES283151	Leaf SW. BSW-31 (PL)	
ES283173	Leaf SW. BUW-31PLC	
ES310839	Push SW. SDG-1P	(U/T, CEE, UK)
ES655806	Push SW. SDG-1P	(CSA)
ES314641	Push SW. SUF-24	

Parts No.	Description	Note
ES314642	Rotary Slide SW. SRZ-R084S	
ES314640	Slide SW. 122079	
ET301464	FET 2SK68 (M) (N)	
ET302466	FET 2SK68A (Special)	
ET283217	Transistor 2SA628 (F) (G)	
ET554657	Transistor 2SA733 (P) (Q)	
ET314648	Transistor 2SA885 (R) (S)	
ET314645	Transistor 2SA906 (F) (G)	
ET308954	Transistor 2SC1844 (E) (F)	
ET310920	Transistor 2SC1846 (R) (S)	
ET311868	Transistor 2SC2130 (F) (G)	
ET310832	Transistor 2SC2130 (G)	
ET309353	Transistor 2SC2274 (E) (F)	
ET310833	Transistor 2SC2274K (E)	
ET391768	Transistor 2SC458LG (C) (D)	
ET563905	Transistor 2SC711 (G) (H)	
ET639437	Transistor 2SC945L (Q) (P)	
ET307349	Transistor 2SD794 (P) (Q)	
EV305631	Double Axial 2 Throw Vol. DM20R-50kAx2	
EV312338	Semi-Fixed/Vol. CR19R 22kB	
EV618120	Semi-Fixed/Vol. CR19R 4.7kB	
EV314968	Semi-Fixed/Vol. D10 Axial 100kB	
EV314646	Semi-Fixed/Vol. D8 Axial 2kB	
EV315414	Semi-Fixed/Vol. D8 Axial 20kB	
EV315412	Semi-Fixed/Vol. D8 Axial 5kB	
EV315413	Semi-Fixed/Vol. D8 Axial 50kB	
EV305630	Single Axial 2 Throw Vol. GM70R-10kAx2	
HE310586	Erase Head HF213822	
HP310933	REC/PB Head P4-361 (Sigma)	
MB283421	AS Belt	
MB282093	Capstan Belt	
MB305617	Counter Belt	
MC305717	Counter	
MI282058	Flywheel	
MT305770	Supply Reel Table (B) Part	
MT305769	Take-up Reel Table (B) Part	

2. HEAD BLOCK

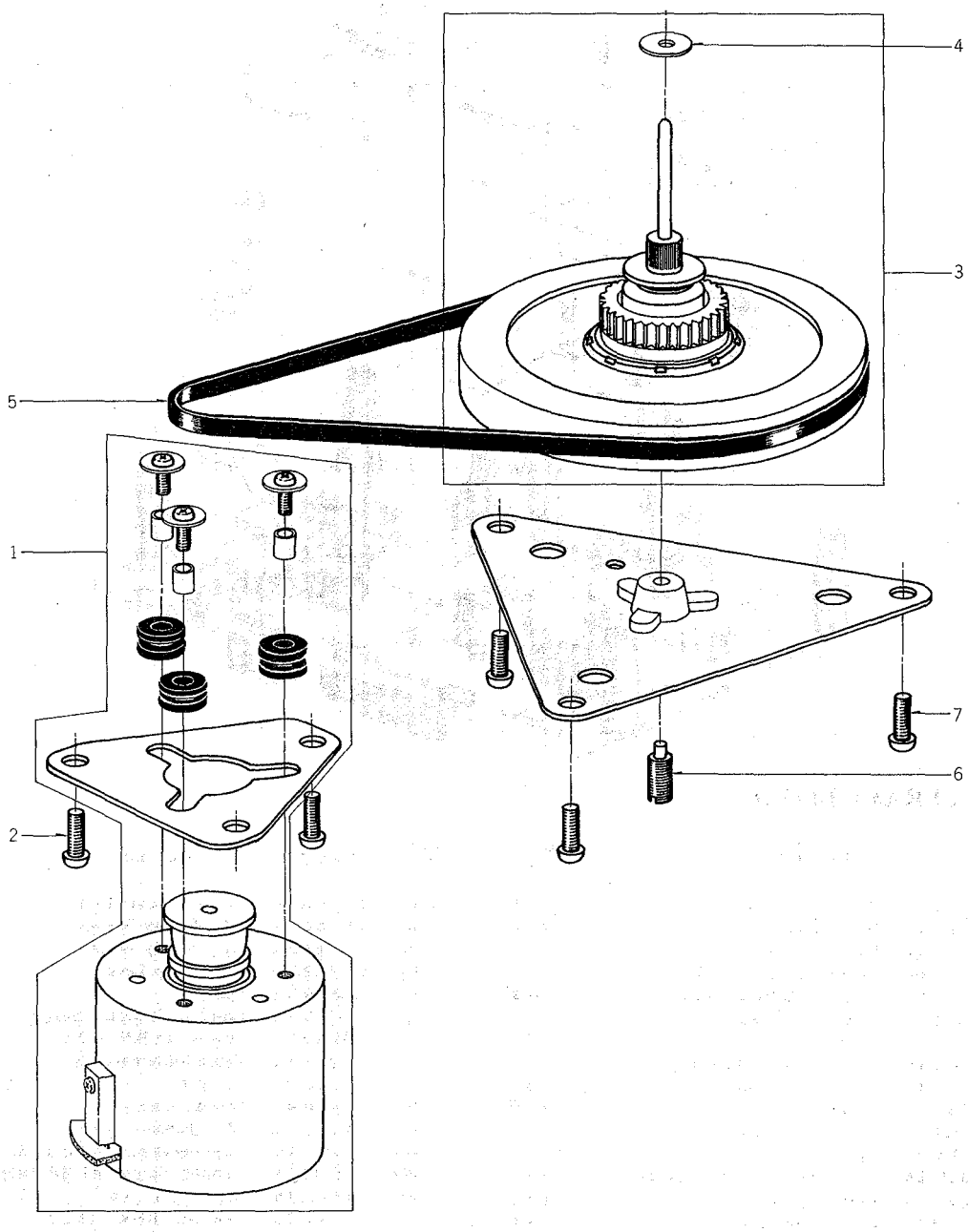


2. HEAD BLOCK

Ref. No.	Parts No.	Description	Schematic No.
2-1x	BH305861	Head Block Comp. GXC-706D	
2-2	HE310586	Erase Head HF213822	37-2-8
2-3	ZS375118	Screw, bind 2.3x6	
2-4	ZG305736	Pinch Roller Spring	CN-0304
2-5	ZG289236	Tape Guide Spring	CM-0005
2-6	ZW273734	Nut #1 M2	
2-7	TC286007	Tape Guide (B)	CM-0002
2-8	ZG310453	Clamp Spring	CN-0311
2-9	ZW270088	'E' Ring 1.9M	6-1-9
2-10x	ZS315161	S-Tight Screw, pan 2.6x5	
2-11	ZG465636	Angle Adjust Spring	CG-0029
2-12	ZS391522	Screw, pan 2.3x8	
2-13	ZS303625	Screw, pan 2.3x16	
2-14	ZW273690	Nut #1 M2.3	
2-15	ZS356804	Set Screw, Hexagon Socket 3x4 (Cup/P.)	
2-16	ZS356815	Set Screw, Hexagon Socket 3x6 (Cup/P.)	
2-17	HP310933	REC/PB Head P4-361 (Sigma)	
2-18	ZS477876	Screw, pan 2x3	
2-19	ZS422076	Screw, pan 3x5	
2-20	BL311391	Pinch Roller Block Comp. GXC-704D	
2-21	ZW357164	'E' Ring 2.3M	6-1-9

When ordering parts, please describe Parts Number, Description, and Model Number in detail.

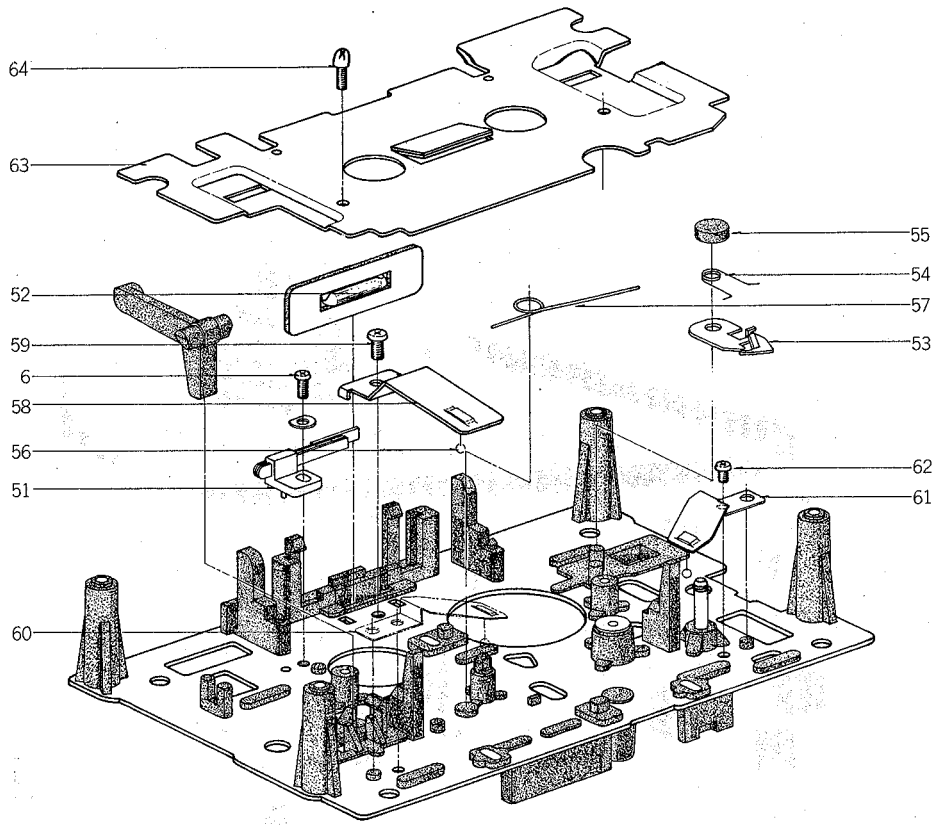
3. MOTOR BLOCK



3. MOTOR BLOCK

Ref. No.	Parts No.	Description	Schematic No.
3-1	BM318854	Motor Block Comp. GXC-706DX	
3-2	ZS447840	Tapping Screw, #2 BR 3x8	
3-3	MI282058	Flywheel	CN-1013
3-4	ZW282442	Thrust Washer	CN-1060
3-5	MB282093	Capstan Belt	CN-1017
3-6	ZS297628	Adjust Screw	CN-1069
3-7	ZS447840	Tapping Screw, #2 BR 3x8	

4. MECHA FRAME BLOCK (1)

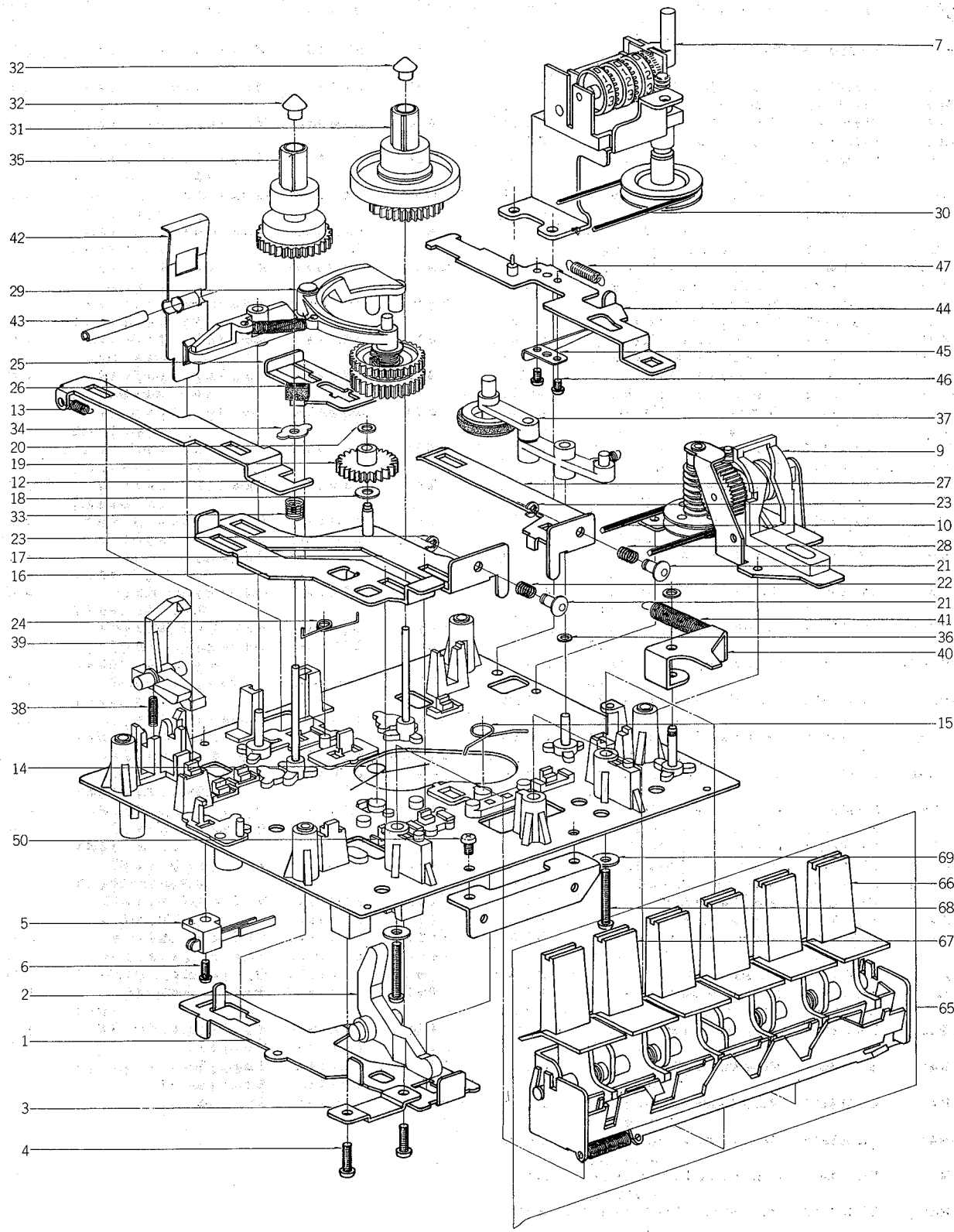


4. MECHA FRAME BLOCK

Ref. No.	Parts No.	Description	Schematic No.
4-1	TC282047	Brake Slide (B)	CN-1012
4-2	ML282328	REC Lever	2-24-23
4-3	MZ282330	REC Lever Stopper	CN-1044
4-4	ZS447840	Tapping Screw, #2 BR 3x8	
4-5	ES283151	Leaf SW. BSW-31 (PL)	25-10-25
4-6	ZS537085	Screw, bind 2x5	
4-7	MC305717	Counter	9-1-59
4-8x	ZS200384	Screw, countersunk 3x6	
4-9	BZ282881	Auto Stop Comp.	CN-3014
4-10	MB283421	AS Belt	CN-1066
4-11x	ZS432843	Screw, pan 2.6x4	
4-12	ML305618	Eject Slide	CN-1302
4-13	ZG385986	Safety Lever Return Spring	CS-2539
4-14	ZG282126	Return Spring	CN-1022
4-15	ZG282464	Return Spring (B)	CN-1065
4-16	TC282137	REC Slide	CN-1023
4-17	TC281788	RWD Slide Part CN	CN-1024
4-18	ZW694798	Washer (Teflon) D3.1x7x0.2t	
4-19	TC282161	RWD Wheel	CN-1026
4-20	ZW282407	Push Washer (B)	CN-1056
4-21	MS282172	Spring Shaft	CN-1027
4-22	ZG282183	Spring	CN-1028
4-23	ZW270088	'E' Ring 1.9M	6-1-9
4-24	ZG282115	Brake Spring	CN-1021
4-25	TC282262	Brake Slide (A)	CN-1037
4-26	MB282104	Brake Rubber	CN-1020
4-27	TC282194	F.F Slide	CN-1029
4-28	ZG298350	Spring (B)	CN-1068
4-29	BL282510	Middle Lever Part	CN-2023
4-30	MB305617	Counter Belt	CN-1301
4-31	MT305769	Take-up Reel Table (B) Part	13-2-49
4-32	MT305793	Reel Cap	CF-2039
4-33	ZG313829	Back Tension Spring	CN-1503
4-34	ZW282420	Spring Spot Facing Washer	CN-1058
4-35	MT305770	Supply Reel Table (B) Part	13-2-50
4-36	ZW381644	Washer (Polyslider) D2.1x4.0x0.13t	
4-37	BL282508	Take-up Lever Part	CN-2022
4-38	ZG282431	REC Safety Spring	CN-1059
4-39	ML282240	REC Safety Lever	CN-1035
4-40	ML282273	Auto Stop Lever	CN-1038
4-41	ZG606723	Spring T	KJ-2059
4-42	ZG282251	Cassette Stopping Spring	CN-1036
4-43	MH284185	Spring Pin SPP 3x22	
4-44	TC268468	Pause Slide Part CN	CN-1031
4-45	TC282227	Scraper	CN-1033
4-46	ZS374646	Screw, pan 2x2	
4-47	ZG387178	Idler Tension Spring	CS-1106
4-48x	ZS303225	Tapping Screw, #2 bind 3x10	
4-49x	ZS650013	Tapping Screw, #1 BR 3x25	
4-50	ZS417216	Screw, pan 3x4	
4-51	ES283173	Leaf SW. BUW-31PLC	25-10-26
4-52	EL283184	Lamp (L/T) 8V 100mA	28-2-59
4-53	TC515575	SW. Lock Cam (B)	CG-2301
4-54	ZG632553	Button Lock Spring (C)	CG-2303
4-55	TC282396	Cap	CN-1055
4-56	MV357208	Steel Ball D2	
4-57	ZG282341	Head Return Spring	CN-1048
4-58	ZG305620	Head Base Holder Spring	CN-1304
4-59	ZS575087	Screw, Truss 3x4	
4-60	ZG300881	Head Retaining Spring (A)	CN-1070
4-61	ZG300882	Head Retaining Spring (B)	CN-1070
4-62	ZS201407	Screw, pan 2.3x3	
4-63	TC305762	Decoration Plate Assy GXC-706D	CN-1310
4-64	ZS306078	Tapping Screw, #2 Truss 2.3x5	
4-65	BK305797	Keyboard Comp. (A) CN-2	25-5-274
4-66	SK306096	Function Key (A)	CN-3031
4-67	SK306097	Function Key (B)	CN-3031
4-68	ZS608253	Screw, pan 3x20	
4-69	ZW550642	Washer (SPC) D3.1x8x0.5t	
4-70x	ZW287458	Washer D3.3x6x0.3t	
4-71x	ZS523664	Tapping Screw, #2 BR 3x10	

When ordering parts, please describe Parts Number, Description, and Model Number in detail.

4. MECHA FRAME BLOCK (2)



5. PRE AMP P.C BOARD (CN-5341A/5341S)

BLOCK

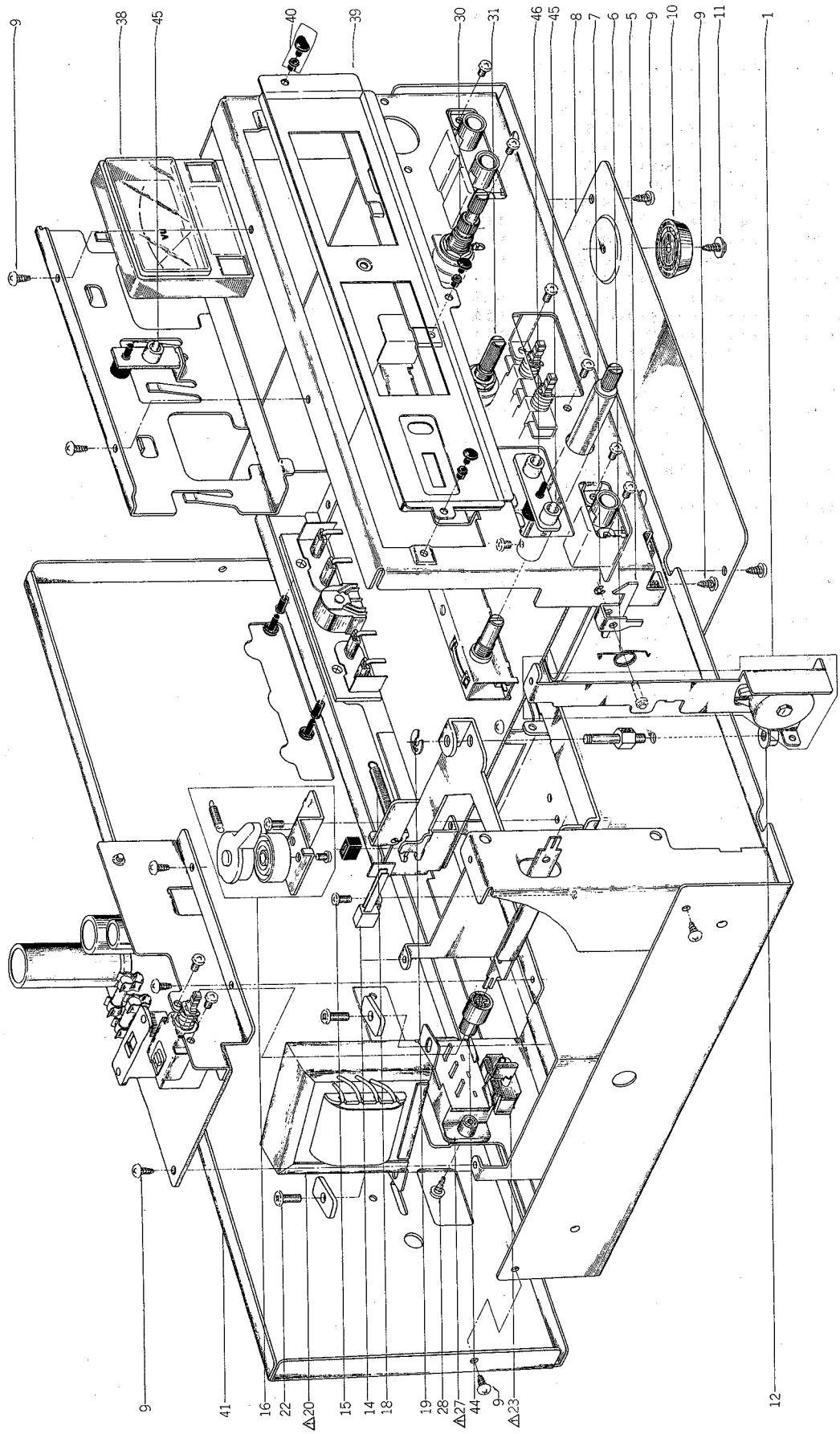
Symbol No.	Parts No.	Description	Schematic No.
5-1	BA310985	Pre Amp P.C Board Comp. GXC-706DX	CN-5341A
5-IC1	EI314644	IC TA-7605AP	45-8-350
5-IC2,3	EI213390	IC D-4558	45-8-191
5-IC4	EI306141	IC LA4170	45-8-305
5-IC5	EI314647	IC TA-7179P	45-8-349
5-TR1	ET302466	FET 2SK68A (Special)	45-12-17
5-TR2	ET314645	Transistor 2SA906 (F) (G)	45-1-280
5-TR3	ET308954	Transistor 2SC1844 (E)(F)	45-1-327
5-TR4	ET391768	Transistor 2SC458LG (C)(D)	45-1-29
5-TR5	ET639437	Transistor 2SC945L(Q)(P)	45-1-85
5-TR6	ET554657	Transistor 2SA733(P)(Q)	45-1-124
5-TR7	ET639437	Transistor 2SC945L(Q)(P)	45-1-85
5-TR8	ET563905	Transistor 2SC711(G)(H)	45-1-67
5-TR9	ET283217	Transistor 2SA628(F)(G)	45-1-94
5-TR10	ET639437	Transistor 2SC945L(Q)(P)	45-1-85
5-TR11	ET554657	Transistor 2SA733(P)(Q)	45-1-124
5-TR12	ET301464	FET 2SK68(M)(N)	45-12-14
5-TR13	ET311868	Transistor 2SC2130(F)(G)	45-1-317
5-TR14	ET310833	Transistor 2SC2274K(E)	45-1-335
5-TR15	ET309353	Transistor 2SC2274(E)(F)	45-1-335
5-TR16	ET639437	Transistor 2SC945L(Q)(P)	45-1-85
5-TR17,18	ET310832	Transistor 2SC2130(G)	45-1-317
5-D1to4	ED560913	Silicon Diode 1S2473 VE	45-3-23
5-D5	ED624903	Silicon Diode 1S2473	45-3-28
5-D6,7	ED308952	Germanium Diode 1K34A-LR	45-3-47
5-VR1	EV314646	Semi-Fixed/Vol. D8 Axial 2kB	36-10-280
5-VR2	EV315413	Semi-Fixed/Vol. D8 Axial 50kB	36-10-280
5-VR3	EV312338	Semi-Fixed/Vol. CR19R 22kB	36-28-4
5-VR4to6	EV618120	Semi-Fixed/Vol. CR19R 4.7kB	36-28-4
5-VR7	EV315414	Semi-Fixed/Vol. D8 Axial 20kB	36-10-280
5-VR8	EV314968	Semi-Fixed/Vol. D10 Axial 100kB	36-10-281
5-VR9to12	EV315412	Semi-Fixed/Vol. D8 Axial 5kB	36-10-280
5-VL1	EO346230	Inductor RX 22MH	23-1-15
5-T1	EO283050	OSC. Coil 09A-1359	23-4-40
5-FL1	ER309361	Dolby Filter D07-002	53-1-143
5-FL2	ER309119	Dolby Filter D07-001	53-1-143
5-FL3,4	EO309363	Trap Coil 8AAP-0008	23-1-302
5-SW1	ES314640	Slide SW. 122079	25-3-173
5-SW2,3	ES314641	Push SW. SUF-24	25-5-320
5-SW4	ES314642	Rotary Slide SW. SRZ-R084S	25-6-177
5-J1	EJ305739	Mic Jack JU2	31-2-89
5-J2	EJ305629	Headphone Jack JL3A	31-2-90
5-J3	EJ305738	4P Pin Jack	31-5-140
5-R40	ER309788	Metal Oxide Film/R. (Vert.) 1/4W 1k (F)	35-17-14
5-R41	ER314663	Metal Oxide Film/R. (Vert.) 1/4W 47k (F)	35-17-14
5-R42	ER314672	Metal Oxide Film/R. (Vert.) 1/4W 16k (F)	35-17-14
5-R43	ER309815	Metal Oxide Film/R. (Vert.) 1/4W 12k (F)	35-17-14
5-R44	ER314672	Metal Oxide Film/R. (Vert.) 1/4W 16k (F)	35-17-14
5-R45	ER309815	Metal Oxide Film/R. (Vert.) 1/4W 12k (F)	35-17-14
5-R46	ER314663	Metal Oxide Film/R. (Vert.) 1/4W 47k (F)	35-17-14
5-R47,48	ER314672	Metal Oxide Film/R. (Vert.) 1/4W 16k (F)	35-17-14
5-R49	ER309788	Metal Oxide Film/R. (Vert.) 1/4W 1k (F)	35-17-14
5-R53	ER309814	Metal Oxide Film/R. (Vert.) 1/4W 10k (F)	35-17-14
5-R54	ER309816	Metal Oxide Film/R. (Vert.) 1/4W 15k (F)	35-17-14
5-R55	ER309804	Metal Oxide Film/R. (Vert.) 1/4W 3.9k (F)	35-17-14
5-R56	ER309817	Metal Oxide Film/R. (Vert.) 1/4W 33k (F)	35-17-14
5-R62	ER314643	Metal Oxide Film/R. (Vert.) 1/4W 750 ohms (F)	35-17-14
5-R64	ER309800	Metal Oxide Film/R. (Vert.) 1/4W 3k (F)	35-17-14
5-R65	ER309801	Metal Oxide Film/R. (Vert.) 1/4W 3.3k (F)	35-17-14
5-R66	ER309797	Metal Oxide Film/R. (Vert.) 1/4W 2.2k (F)	35-17-14
5-R70	ER310434	Metal Oxide Film/R. (Vert.) 1/4W 560 ohms (F)	35-17-14
5-R71	ER309814	Metal Oxide Film/R. (Vert.) 1/4W 10k (F)	35-17-14
5-R72	ER314664	Metal Oxide Film/R. (Vert.) 1/4W 100 ohms (F)	35-17-14
5-R73	ER309788	Metal Oxide Film/R. (Vert.) 1/4W 1k (F)	35-17-14
5-R74	ER314665	Metal Oxide Film/R. (Vert.) 1/4W 56 ohms (F)	35-17-14
5-R125	ER305722	Metal Oxide Film/R. 2W 220 ohms (J)	35-11-22
5-C3	EC306988	Styrol/C. 330pF (J) 50WV	24-11-14
5-C20	EC313533	NP/C. 4.7μF (M) 16WV	24-17-31
5-C21	EC314680	Polypropylene Film/C. 470pF 100WV	24-22-6
5-C22	EC314681	Polypropylene Film/C. 0.018μF (G) 100WV	24-22-6
5-C23	EC313533	NP/C. 4.7μF (M) 16WV	24-17-31
5-C25,26	EC314693	Polypropylene Film/C. 0.003μF (G) 100WV	24-22-6
5-C28	EC314680	Polypropylene Film/C. 470pF 100WV	24-22-6
5-C29	EC314681	Polypropylene Film/C. 0.018μF (G) 100WV	24-22-6
5-C30,31	EC313533	NP/C. 4.7μF (M) 16WV	24-17-31
5-C33	EC314694	Polypropylene Film/C. 0.0047μF (G) 100WV	24-22-6
5-C35	EC306987	Styrol/C. 470pF (J) 50WV	24-11-14
5-C41,42	EC315610	Metalized Polyester/C. 1μF (K) 250WV	24-16-17
5-C43	EC314696	Metalized Polyester/C. 4.7μF (K) 100WV	24-16-16
5-C44	EC313533	NP/C. 4.7μF (M) 16WV	24-17-31
5-C50	EC313533	NP/C. 4.7μF (M) 16WV	24-17-31
5-C53	EC313533	NP/C. 4.7μF (M) 16WV	24-17-31
5-C61	EC308940	NP/C. 0.47μF (M) 50WV	24-17-31
5-C64,65	EC306980	Styrol/C. 220pF (J) 50WV	24-11-14
5-C66	EC312406	Styrol/C. 1000pF(J) 250WV	24-11-14
5-C80	EC310599	Styrol/C. 390pF (K) 50WV	24-11-14
5-2	ZW263946	Nylon Rivet 4x5	2-7-57
5-3	ZS325495	Tapping Screw, #2 BR 3x6	
5-4	ZS417216	Screw, pan 3x4	
5-5	ZS422076	Screw, pan 3x5	

When ordering parts, please describe Parts Number, Description, and Model Number in detail.

6. POWER & SYS. CON P.C BOARD (CN-5342/5342S) BLOCK

Symbol No.	Parts No.	Description	Schematic No.
6-1	BA310971	Power & Sys. Con P.C Board Comp. GXC-706DX(U/T) (CEE, UK)	CN-5342
6-2	BA310973	Power & Sys. Con P.C Board Comp. GXC-706DX (CSA)	CN-5342
6-TR1	ET639437	Transistor 2SC945L (Q)(P)	45-1-85
6-TR2	ET307349	Transistor 2SD794 (P)(Q)	45-1-334
6-TR3	ET639437	Transistor 2SC945L (Q)(P)	45-1-85
6-TR4	ET554657	Transistor 2SA733 (P)(Q)	45-1-124
6-TR5	ET310920	Transistor 2SC1846 (R)(S)	45-1-267
6-TR6	ET314648	Transistor 2SA885 (R)(S)	45-1-359
6-TR7	ET639437	Transistor 2SC945L (Q)(P)	45-1-85
6-TR8	ET554657	Transistor 2SA733 (P)(Q)	45-1-124
6-D1	ED308945	Silicon Diode SVB10-100	45-2-82
6-D2	ED242368	Zener Diode WZ-240	45-6-37
6-D3,4	ED308945	Silicon Diode SVB10-100	45-2-82
6-D5	ED538042	Zener Diode RD-7A (L)	45-6-71
6-D6	ED538042	Zener Diode RD-7A (L)	45-6-71
6-SW1	ES310839	⚠ Push SW. SDG-1P (U/T, CEE, UK)	25-5-310
6-SW1	ES655806	⚠ Push SW. SDG-1P (CSA)	25-5-187
6-C1	EC645895	Elect./C. (Vert.) 2200μF 50WV	24-12-17
6-C4	EC220421	Elect./C. (Vert.) 1000μF 16WV	24-12-9
6-C5	EC450270	Elect./C. (Vert.) 1000μF 25WV	24-12-9
6-C13	EC301320	⚠ MP/C. 4700pF (M) 250WV	24-9-122
6-C13	EC314688	⚠ Ceramic/C. DE7150 FZ 0.01μF (P) 125WV	24-5-87
6-3	ZS421806	Screw, pan 3x8	
6-4	ZS422076	Screw, pan 3x5	
6-5	ZS558101	Screw, pan 3x6 w/washer	

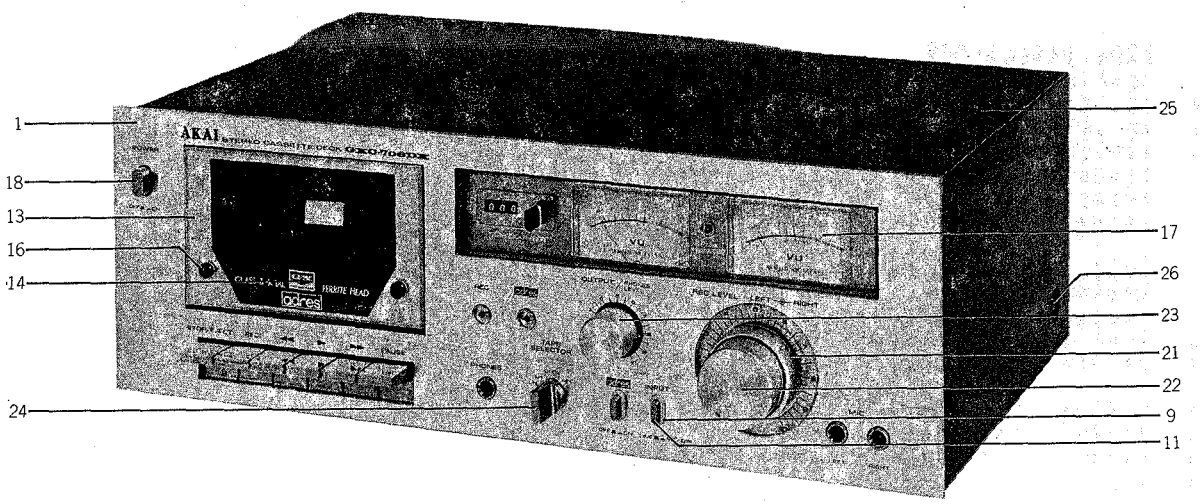
7. FINAL ASSEMBLY BLOCK (1)



7. FINAL ASSEMBLY BLOCK (1)

Ref. No.	Parts No.	Description	Schematic No.
		FRONT PANEL BLOCK	
7-1	TC305729	Damper Comp. (A) GXC-706D	CN-6359
7-2x	ZG294017	Eject Spring (B)	CM-6025
7-3x	ZS479474	Screw, pan 2.6x5	
7-4x	ZS422076	Screw, pan 3x5	
7-5	TC305664	Lock Plate	CN-6315
7-6	ZG300172	Lock Spring	CM-6039
7-7	ZW270088	'E' Ring 1.9M	6-1-9
		FINAL ASSEMBLY BLOCK	
7-8	SP305746	Buttom Plate	CN-5322
7-9	ZS325495	Tapping Screw, #2 BR 3x6	
7-10	SA305646	Rubber Foot (A) (Black)	CN-5323
7-11	ZS462194	Tapping Screw, #2 pan 3x8 (W=8)	
7-12	ZW413267	Flange Nut M4	
7-13x	ZS306021	S-Tight Screw, pan 3x6	
7-14	ES301747	Leaf SW. BSW-1F TX-2	25-10-30
7-15	ZS313490	S-Tight Screw, pan 3x6 w/washer	
7-16	TC305728	Oil Clutch Comp. (E) GXC-706D	CN-5335
7-17x	ZS313804	Graduated Screw	CN-5337
7-18	ZS313017	Coil Spring	
7-19	ZW290283	'U' Ring 2.85M	6-1-1
7-20	BT314634	⚠ Power Trans. CNT-53 (U/T, CEE, UK)	38-4-714
7-21x	BT314635	⚠ Power Trans. CNT-55 (CSA)	38-4-715
7-22	ZS300519	Tapping Screw, #3 pan 4x8	
7-23	EJ301513	⚠ 2P Inlet	31-1-200
7-24x	EW207742	⚠ AC Cord CUL (CSA)	26-3-45
7-25x	EZ631945	Strain Relief SR-4N-4 (CSA)	2-7-49
7-26x	ZS304022	Screw, pan 4x6	
7-27	ES306430	⚠ Slide SW. J-S4013#01 (U/T, CEE, UK)	25-3-142
7-28	ZS463353	Tapping Screw, #2 BR 3x8 (Black)	
7-29x	ZS447840	Tapping Screw, #2 BR 3x8	
7-30	EV305631	Double Axial 2 Throw Vol. DM20R-50kAx2	36-18-13
7-31	EV305630	Single Axial 2 Throw Vol. GM70R-10kAx2	36-1-56
7-32x	ZS523664	Tapping Screw, #2 BR 3x10	
7-33x	EF668474	⚠ Fuse (SEMKO T Type) 400mAT (U/T, CEE, UK)	39-1-53
7-34x	EF695766	⚠ Fuse (SEMKO T Type) 315mAT (U/T, CEE, UK)	39-1-53
7-35x	EF305703	⚠ Fuse 630mA 125V (CSA)	39-1-65
7-36x	EF309390	⚠ Fuse 500mA 125V (CSA)	39-1-65
7-37x	EF308848	⚠ Fuse 400mA 125V (CSA)	39-1-65
7-38	EM305634	VU Meter S11ADR68B	46-1-187
7-39	SP314637	Meter Panel (B)	CN-6320,6366
7-40	ZW302909	Nylon Rivet (FNPR) 3x3.5 (BLK)	2-7-54
7-41	SP314639	Rear Panel (G) (U/T, CEE, UK)	CN-6362
7-42x	SP314638	Rear Panel (F) (CSA)	CN-6362
7-43x	ZS447761	Tapping Screw, #2 BR 3x6 (Black)	
7-44	TC289484	SW. Joint	CM-6015
7-45	ED249377	LED GL-3AR1	45-15-14
7-46	ED283138	LED GL-3PG1	45-15-15

8. FINAL ASSEMBLY BLOCK (2)



8. FINAL ASSEMBLY BLOCK (2)

Ref. No.	Parts No.	Description	Schematic No.
		FRONT PANEL BLOCK	
8-1	BD310976	Front Panel Block Comp. GXC-706DX	CN-6368
8-2x	TC306770	Lid Frame (B)	CN-6358
8-3x	ZG282690	Set Spring	CN-6009
8-4x	ZS201407	Screw, pan 2.3x3	
8-5x	ZW270101	'E' Ring 3M	6-1-9
8-6x	ZW516611	Nut M3	
8-7x	ZS422076	Screw, pan 3x5	
8-8x	ZW290283	'U' Ring 2.85M	6-1-1
8-9	SE306143	Button Escutcheon (A)	CN-6308
8-10x	ZG305657	Button Spring	CN-6310
8-11	SK305653	Push Button (A)	CN-6309
8-12x	BD310983	Lid Panel Assy GXC-706DX	CN-6369
8-13	SP314651	Lid Panel (B)	CN-6311,6367
8-14	SM518310	Name Plate (GX) (B)	CG-6411
8-15x	ZW305005	Nylon Rivet (Female) 4x7	2-7-58
8-16	ZW304819	Lid Rivet	CN-6043
8-17	SZ305690	Meter Cover	CN-6305
		FINAL ASSEMBLY BLOCK	
8-18	SK305674	Power SW. Cap	CN-6338
8-19x	ZS447840	Tapping Screw, #2 BR 3x8	
8-20x	ZS406416	Tapping Screw, #2 Countersunk 3x8	
8-21	SK305669	Double Knob (Lower) GXC-706D	CN-6333
8-22	SK305668	Double Knob (Upper) GXC-706D	CN-6331
8-23	SK305670	Output Knob GXC-706D	CN-6335
8-24	SK305671	Selector Knob	CN-6337
8-25	BC305744	Upper Cover (A)	CN-6323
8-26	ZS310588	S-Tight Screw, bind 4x8 (Black)	
8-27x	ZS463353	Tapping Screw, #2 BR 3x8 (Black)	

INDEX

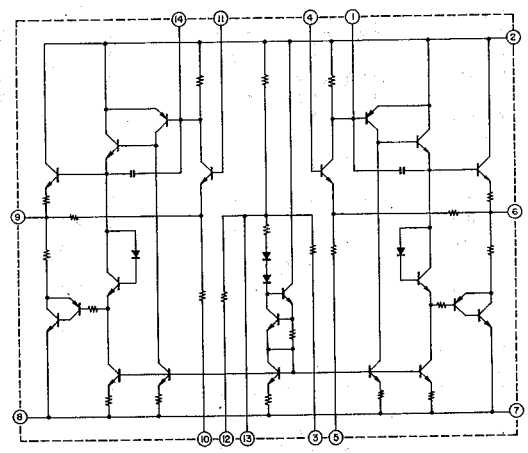
Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.	Parts No.	Ref. No. & Symbol No.
BA310971	6-1	ER309815	5-R43	SK305668	8-22	ZS421806	6-3		
BA310973	6-2	ER309815	5-R45	SK305669	8-21	ZS422076	2-19		
BA310985	5-1	ER309816	5-R54	SK305670	8-23	ZS422076	5-5		
BC305744	8-25	ER309817	5-R56	SK305671	8-24	ZS422076	6-4		
BD310976	8-1	ER310434	5-R70	SK305674	8-18	ZS422076	7-4x		
BD310983	8-12x	ER314643	5-R62	SK306096	4-66	ZS422076	8-7x		
BH305861	2-1x	ER314663	5-R41	SK306097	4-67	ZS432843	4-11x		
BK305797	4-65	ER314663	5-R46	SM518310	8-14	ZS447761	7-43x		
BL282508	4-37	ER314664	5-R72	SP305746	7-8	ZS447840	3-2		
BL282510	4-29	ER314665	5-R74	SP314637	7-39	ZS447840	3-7		
BL311391	2-20	ER314672	5-R42	SP314638	7-42x	ZS447840	4-4		
BM318854	3-1	ER314672	5-R44	SP314639	7-41	ZS447840	7-29x		
BT314634	7-20	ER314672	5-R47,48	SP314651	8-13	ZS447840	8-19x		
BT314635	7-21x	ES283151	4-5	SZ305690	8-17	ZS462194	7-11		
BZ282881	4-9	ES283173	4-51	TC268468	4-44	ZS463353	7-28		
EC220421	6-C4	ES301747	7-14	TC281788	4-17	ZS463353	8-27x		
EC301320	6-C13	ES306430	7-27	TC282047	4-1	ZS477876	2-18		
EC306980	5-C64,65	ES310839	6-SW1	TC282137	4-16	ZS479474	7-3x		
EC306987	5-C35	ES314640	5-SW1	TC282161	4-19	ZS523664	4-71x		
EC306988	5-C3	ES314641	5-SW2,3	TC282194	4-27	ZS523664	7-32x		
EC308940	5-C61	ES314642	5-SW4	TC282227	4-45	ZS537085	4-6		
EC310599	5-C80	ES655806	6-SW1	TC282262	4-25	ZS558101	6-5		
EC312406	5-C66	ET283217	5-TR9	TC282396	4-55	ZS575087	4-59		
EC313533	5-C20	ET301464	5-TR12	TC286007	2-7	ZS608253	4-68		
EC313533	5-C23	ET302466	5-TR1	TC289484	7-44	ZS650013	4-49x		
EC313533	5-C30,31	ET307349	6-TR2	TC305664	7-5	ZW263946	5-2		
EC313533	5-C44	ET308954	5-TR3	TC305728	7-16	ZW270088	2-9		
EC313533	5-C50	ET309353	5-TR15	TC305729	7-1	ZW270088	4-23		
EC313533	5-C53	ET310832	5-TR17,18	TC305762	4-63	ZW270088	7-7		
EC314680	5-C21	ET310833	5-TR14	TC306770	8-2x	ZW270101	8-5x		
EC314680	5-C28	ET310920	6-TR5	TC515575	4-53	ZW273690	2-14		
EC314681	5-C22	ET311868	5-TR13	ZG282115	4-24	ZW273734	2-6		
EC314681	5-C29	ET314645	5-TR2	ZG282126	4-14	ZW282407	4-20		
EC314688	6-C13	ET314648	6-TR6	ZG282183	4-22	ZW282420	4-34		
EC314693	5-C25,26	ET391768	5-TR4	ZG282251	4-42	ZW282442	3-4		
EC314694	5-C33	ET554657	5-TR6	ZG282341	4-57	ZW287458	4-70x		
EC314696	5-C43	ET554657	5-TR11	ZG282431	4-38	ZW290283	7-19		
EC315610	5-C41,42	ET554657	6-TR4	ZG282464	4-15	ZW290283	8-8x		
EC450270	6-C5	ET554657	6-TR8	ZG282690	8-3x	ZW302909	7-40		
EC645895	6-C1	ET563905	5-TR8	ZG289236	2-5	ZW304819	8-16		
ED242368	6-D2	ET639437	5-TR5	ZG294017	7-2x	ZW305005	8-15x		
ED249377	7-45	ET639437	5-TR7	ZG298350	4-28	ZW357164	2-21		
ED283138	7-46	ET639437	5-TR10	ZG300172	7-6	ZW381644	4-36		
ED308945	6-D1	ET639437	5-TR16	ZG300881	4-60	ZW413267	7-12		
ED308945	6-D3,4	ET639437	6-TR1	ZG300882	4-61	ZW516611	8-6x		
ED308952	5-D6,7	ET639437	6-TR3	ZG305620	4-58	ZW550642	4-69		
ED538042	6-D5	ET639437	6-TR7	ZG305657	8-10x	ZW694798	4-18		
ED538042	6-D6	EV305630	7-31	ZG305736	2-4				
ED560913	5-D1to4	EV305631	7-30	ZG310453	2-8				
ED624903	5-D5	EV312338	5-VR3	ZG313829	4-33				
EF305703	7-35x	EV314646	5-VR1	ZG385986	4-13				
EF308848	7-37x	EV314968	5-VR8	ZG387178	4-47				
EF309390	7-36x	EV315412	5-VR9to12	ZG465636	2-11				
EF668474	7-33x	EV315413	5-VR2	ZG606723	4-41				
EF695766	7-34x	EV315414	5-VR7	ZG632553	4-54				
EI213390	5-IC2,3	EV618120	5-VR4to6	ZS200384	4-8x				
EI306141	5-IC4	EW207742	7-24x	ZS201407	4-62				
EI314644	5-IC1	EZ631945	7-25x	ZS201407	8-4x				
EI314647	5-IC5	HE310586	2-2	ZS297628	3-6				
EJ301513	7-23	HP310933	2-17	ZS300519	7-22				
EJ305629	5-J2	MB282093	3-5	ZS303225	4-48x				
EJ305738	5-J3	MB282104	4-26	ZS303625	2-13				
EJ305739	5-J1	MB283421	4-10	ZS304022	7-26x				
EL283184	4-52	MB305617	4-30	ZS306021	7-13x				
EM305634	7-38	MC305717	4-7	ZS306078	4-64				
EO283050	5-T1	MH284185	4-43	ZS310588	8-26				
EO309363	5-FL3,4	MI282058	3-3	ZS313017	7-18				
EO346230	5-VL1	ML282240	4-39	ZS313490	7-15				
ER305722	5-R125	ML282273	4-40	ZS313804	7-17x				
ER309119	5-FL2	ML282328	4-2	ZS315161	2-10x				
ER309361	5-FL1	ML305618	4-12	ZS325495	5-3				
ER309788	5-R40	MS282172	4-21	ZS325495	7-9				
ER309788	5-R49	MT305769	4-31	ZS356804	2-15				
ER309788	5-R73	MT305770	4-35	ZS356815	2-16				
ER309797	5-R66	MT305793	4-32	ZS374646	4-46				
ER309800	5-R64	MV357208	4-56	ZS375118	2-3				
ER309801	5-R65	MZ282330	4-3	ZS391522	2-12				
ER309804	5-R55	SA305646	7-10	ZS406416	8-20x				
ER309814	5-R53	SE306143	8-9	ZS417216	4-50				
ER309814	5-R71	SK305653	8-11	ZS417216	5-4				

SECTION 3

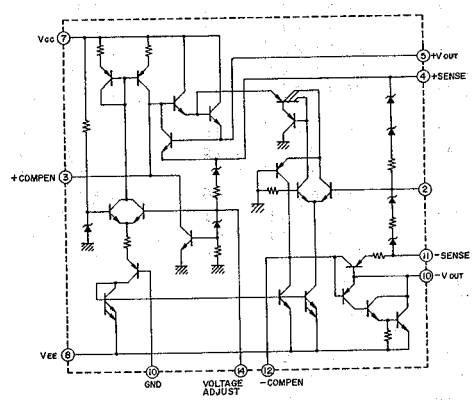
SCHEMATIC DIAGRAM

GXC-706DX NO. 1581210A SCHEMATIC DIAGRAM

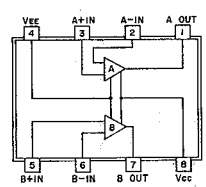
LA-4170

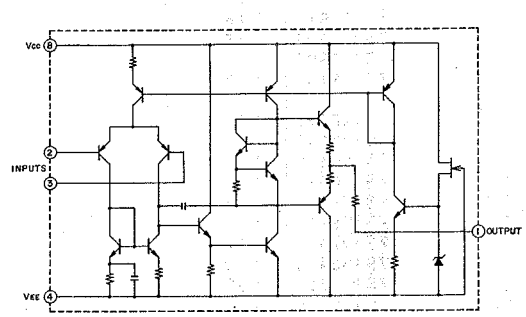


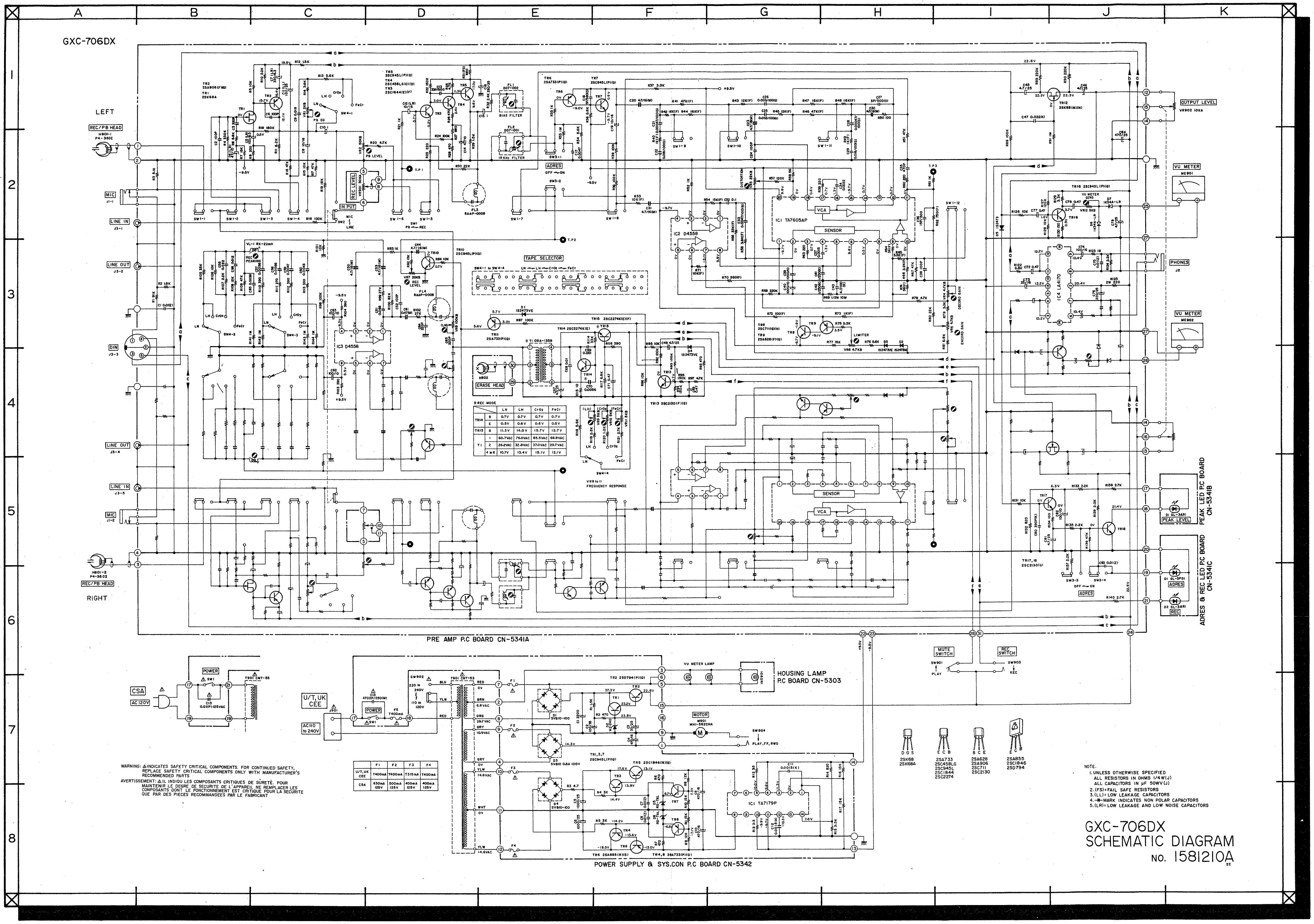
TA-7179P



D-4558







WARNING: ⚠INDICATES SAFETY CRITICAL COMPONENTS. FOR CONTINUED SAFETY, REPLACE SAFETY CRITICAL COMPONENTS ONLY WITH MANUFACTURER'S RECOMMENDED PARTS

AVERTISSEMENT: ⚠IL INDIQU LES COMPOSANTS CRITIQUES DE SÛRETÉ. POUR MAINTENIR LE DEGRE DE SECURITE DE L'APPAREIL NE REMPLACER LES CONPOSANTS DONT LE FONCTIONNEMENT EST CRITIQUE POUR LA SECURITE QUE PAR DES PIECES RECOMMANDEES PAR LE FABRICANT

	F1	F2	F3	F4
U/T, UK CEE	T400mA	T400mA	T315mA	T400mA
CSA	630mA 125V	500mA 125V	400mA 125V	400mA 125V

NOTE.
1. UNLESS OTHERWISE SPECIFIED
   ALL RESISTORS IN OHMS 1/4W(J)
   ALL CAPACITORS IN μF 50WV(J)
2. (FS)=FAIL SAFE RESISTORS
3. (LL)=LOW LEAKAGE CAPACITORS
4. ⊣⊬⊢ MARK INDICATES NON POLAR CAPACITORS
5. (LR)=LOW LEAKAGE AND LOW NOISE CAPACITORS

GXC-706DX
SCHEMATIC DIAGRAM
NO. 1581210A